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# ECONOMIC ANNALIST

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# *The*
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

**Published by Authority of the Hon. Robert Weir**
**Minister of Agriculture**

## INDEX VOLUME IV, 1934

PAGE
Act, The Natural Products Marketing .... 20
Agricultural Situation, The .... 54
Assessment of Farm Property in Ontario .... 24

Boards, Efforts to Control Marketing by Government, etc .... 39
Business Analysis of the Operations of Ten Co-operative Fruit Companies in Nova Scotia .... 8
Business Organizations in Canada, Farmers' .... 46

Cheese, Cost of Manufacturing in Quebec, The .... 4
Combine Harvester, The .... 52
Co-operative Fruit Companies, Business Analysis of the Operations of Ten in Nova Scotia .... 8
Cost of Manufacturing Cheese in Quebec, The .... 4
Creamery Operations in New Brunswick, Economic Analysis of .... 36
Credit, Farm Legislation in Canada .... 43
Current Economic Publications .... 48

Economic Analysis of Creamery Operations in New Brunswick .... 36
Economic Literature .... 14
Economic Literature .... 31
Economic Literature .... 47
Economic Literature .... 63
Economic Situation, The .... 1
Economic Situation, The .... 17
Economic Situation, The .... 33
Economic Situation, The .... 49
Efforts to Control Marketing by Government Boards or Organizations Acting with Government Support .... 39

Farm Credit Legislation in Canada, 1934 .... 43
Farm Property, Assessment of in Ontario .... 24
Farmers' Business Organizations in Canada .... 46
France, The Wheat Situation in .... 30

Page

International Conference of Agricultural Economists 58

Marketing Act, Natural Products 20
Marketing Conference and Co-operative Institute 45
Marketing, Efforts to Control by Government Boards, etc 39
Milk Consumption in Minneapolis 23
Milk Supplied in Saskatchewan, Regulation of 59

Natural Products Marketing Act, 1934, The 20
Notes 16
Notes 32
Notes 48
Notes 64

Observations on the Economic Problems of Growing Fresh Vegetables in the Southern Interior of British Columbia 55

Price Policies 61
Publications, Current Economic 48

Regulation of Milk Supplied in Saskatchewan 59

Saskatchewan Co-operative Conference 45
Saskatchewan Milk Enquiry, 1933 19

Vegetables, Fresh, Observation on the Economic Problems of Growing in Southern Interior of British Columbia 55

Wheat Situation in France, The 30

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## THE ECONOMIC SITUATION

The index number of wholesale prices in Canada showed a substantial gain in February, being 1.5 points above the index for January. The sub-indexes for vegetable products, animals and their products, fibres, textiles and textile products, wood, wood products and paper, iron and its products, advanced; non-ferrous metals and their products, and non-metallic minerals and their products declined, while chemicals and allied products remained unchanged.

*Retail Prices.*—The index number of retail prices and costs of services advanced from 78.7 in January to 79.2 in February. Increased prices of food products were entirely responsible for the rise in the index number. February was the fifth consecutive month in which an advance in retail prices has been registered.

*Employment.*—The adjusted index of employment advanced from 96.5 at the first of February to 97.4 as at the first of March. Employment is, therefore, being more than maintained. It is of special significance that considerable improvement took place in manufacturing industries.

*Physical Volume of Business.*—The physical volume of business receded fractionally in March. The index for February was 86.4 as compared with 86.8 in January. Industrial production was also a little lower, declining from 84.5 to 84.0. Mineral production fell from 120.6 to 117.2. Output of copper and nickel was lower but lead, zinc, and silver production was higher. There was little change in output of gold.

The index of manufacturing registered a substantial gain from 80.7 in January to 83.2 in February. Advances in milling, lumbering, textile imports, and automobile construction were the chief factors contributing to the improvement. The index of iron and steel production was lower because of recessions in pig iron, steel production, and imports of iron and steel. Construction continued at low levels, being even lower than in January. There is still prospect for improvement in this industry when spring opens up.

*Agricultural Products.*—Wholesale prices of Canadian farm products advanced from 55.3 in January to 58.0 in February. This was largely due to improvement in prices of animal products, this index rising from 67.8 to 72.5. While the advances were not uniform practically all classes of stock sold at higher prices. Supplies of eggs fell off sharply and prices therefore rose rapidly. Butter prices were also higher.

Agricultural marketings were much higher in February, the total index being 67.1 as compared with 48.2. Animal marketings rose from 77.6 to 94.0 while those of grain were 61.1 as against 41.6 in January. The movement of wheat was not much higher than in the previous month but that of oats and barley was much larger. Shipments of flax were about the same as in January, while rye moved in slightly larger volume.

*Cold Storage Holdings.*—The index of cold storage holdings fell to 98.6 at the first of February and a further depletion of stocks has resulted in a decline in the index to 97.0 at the first of March. It will be noted that these indexes are below

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.9 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | | | | | | | | | |
| Jan. | 63.0 | 43.6 | 35.1 | 57.9 | 79.1 | 68.1 | 62.2 | 56.1 | 112.0 |
| Feb. | 63.6 | 43.0 | 36.0 | 54.7 | 78.4 | 67.0 | 60.0 | 76.5 | 127.6 |
| Mar. | 64.4 | 44.7 | 38.0 | 56.0 | 77.8 | 68.4 | 62.5 | 129.0 | 135.8 |
| April | 65.4 | 46.8 | 41.1 | 56.4 | 78.1 | 69.8 | 65.1 | 104.1 | 112.7 |
| May | 66.9 | 51.2 | 46.9 | 58.4 | 77.0 | 76.4 | 72.7 | 95.4 | 110.4 |
| June | 67.6 | 52.6 | 49.4 | 57.9 | 77.0 | 82.2 | 79.8 | 221.9 | 119.9 |
| July | 70.5 | 60.1 | 60.8 | 59.0 | 77.2 | 84.1 | 82.6 | 221.9 | 119.9 |
| Aug. | 69.4 | 57.0 | 54.9 | 60.5 | 78.6 | 89.8 | 89.5 | 197.2 | 114.2 |
| Sept. | 68.9 | 54.7 | 49.5 | 63.4 | 78.8 | 90.8 | 90.2 | 101.1 | 115.7 |
| Oct. | 67.9 | 51.4 | 44.6 | 62.8 | 77.9 | 88.2 | 87.4 | 70.5 | 112.7 |
| Nov. | 68.7 | 53.8 | 46.7 | 65.8 | 78.1 | 85.5 | 83.9 | 41.8 | 111.1 |
| Dec. | 69.0 | 53.3 | 45.3 | 66.6 | 78.4 | 86.2 | 85.1 | 30.7 | 107.6 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.7 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 79.2 | 86.4 | 84.0 | 67.1 | 98.6 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1931, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1931, p. 33, and Monthly Mimeographs 1932 and 1933.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.
Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs 1932-1933.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

the base period of 1926 and this indicates a decided improvement in the rate at which food products are being moved into consumption.

*Marketing Policies.*—Interest in revision of marketing policies continues. More schemes are being prepared in the United Kingdom. New Federal and State Legislation has been introduced in Australia. The United States program is being pushed ahead vigorously. The Honourable Robert Weir has given notice of his intention to introduce legislation to improve the marketing of agricultural products in Canada. The immediate cause of the dissatisfaction with marketing services is, of course, to be found in the low prices of agricultural products which prevailed between 1920 and 1924 and since 1929. This situation has given rise to the feeling that improvement in marketing is not only desirable but imperative. While these "short time causes" are of great importance, the changes in agricultural production, in the technique of agriculture, the distribution of population, the transport of food products, together with the improvements in marketing methods which have taken place during the last half century or more are not to be overlooked. New areas of production have been opened up. Products now reach export markets in quantities hitherto regarded as impossible of achievement. These factors have exerted an influence on both foreign and domestic markets and the organization of industry.

The tendency towards concentration of business in larger units suggests the need of a greater degree of governmental control, for while economies can undoubtedly be effected through large scale operations, the additional strength gained through the organization of big business calls for the establishment of metes and bounds in industrial relations.

The tendency towards further governmental support in marketing at present has undoubtedly been influenced by the war-time policies of purchasing and distributing products under Boards set up by governments for specific purposes. In the minds of those who have experienced difficulties in marketing, the operation of these Boards have often been associated with high prices and for the most part honesty and efficiency. Therefore, while present proposals are not modelled after the war time Control Boards, the influence of such organizations cannot be overlooked.

Having experienced low prices for a period of years farmers now seek a means of co-ordination of marketing services in such a way that more effective distribution can be secured, and for the most part seek legislation which will enable them to secure such a form of organization as will bring this about. Such plans are frequently supported, moreover, even by those who might otherwise be opposed because of the pressure of international competition which focuses attention on the policies adopted in other countries and the ways and means of holding old markets and developing new outlets wherever possible.

The present may be regarded as an experimental stage, but despite this, the tendency in the future is likely to be in the direction of more regulation rather than less.

The following news item concerning imports of dairy products to Great Britain was taken from British newspaper reports. "Unable to deal satisfactorily with the condition of the butter and cheese markets by regulation of imports, the Government has felt obliged to come to the assistance of the dairying industry by guaranteeing minimum prices for butter and cheese for the two years beginning April 1 next". Supplies of dairy products from the Dominions have been on the increase to the British market and moreover they show no sign to diminish in quantity. Cheese and butter from the Dominions enter free of duty under the Ottawa agreements so the British farmer had little to gain in raising the import duty on foreign products. The Dominions have shown little inclination to accept the view that restriction of shipments of either butter or cheese to the British market is in their own interests. The Governments' alternative, therefore, is to subsidize the British farmer in the production of these products. Though the Government has decided against restrictions on the imports of butter and cheese, it has taken action in regard to other milk products, the imports of which have been subject to regulation since the middle of last year. The Dominions were asked to restrict imports of condensed, whole and skim milk, milk powder and cream from June to December, 1933, to the same level as in the corresponding period in 1932. The principal foreign countries, namely, the Netherlands and Denmark, were asked to limit their exports during this period to 80% of the quantities sent in the last seven months of 1932, with the exception of December when the proportion was raised to 85%.

# THE COST OF MANUFACTURING CHEESE IN QUEBEC

J. F. Booth[1] and C. V. Parker[2]

An article on the cost of producing cheese in Ontario was presented in a previous issue of this periodical[3]. In this article a similar review is given of the costs of operating 120 cheese factories situated in the counties of Lac St. Jean, Chicoutimi, Beauce, Arthabasca, Yamaska, Megantic, and Wolfe in the Province of Quebec.

The development of the cheese industry in Quebec has been very similar to that of Ontario. Between 1864, when the first cheese factory was established in Ontario, and 1870, several factories were built in the county of Missisquoi, Quebec. A rapid development in factory building and production took place until 1900-04. In 1900, production of factory cheese was 80,630,999 pounds. Since 1904, however, a decline in production has taken place. The total output in 1931 amounted to 25,907,691 pounds. Despite this rapid decline cheese production is still a major industry in the province and demands recognition in any program of research designed to improve dairying as a whole.

The problems confronting the cheese industry in Quebec are also quite similar to those of Ontario. In both provinces declining volume of output has had a tendency to raise production costs per unit of product manufactured.

The effect has been somewhat greater in Quebec, however, because factories there are considerably smaller than in Ontario. The average production per factory in Quebec in 1931 was 23.3 tons while in Ontario it was 81.47 tons, according to the data collected in the survey.

*Costs of Manufacturing Cheese.*—Costs of production are presented in the accompanying tables according to two methods of calculation. In method I the actual rates paid by the patrons to have their milk converted into cheese have been taken. These rates represent the charges which private owners of factories levied and the set deductions which patron-owned concerns made from the sale value of the cheese in 1931. In addition, patron organization costs, which include salaries of officials, milk testing and stationery, have been added to the rates charged by private owners. Method I then deals with costs as the patrons think of them.

The cost of operation based on actual charges to patrons as described under method I is presented in Table 1. Factories were classified according to the pounds of cheese produced. The costs for the smallest group, producing under 40,000 pounds averaged 1.86 cents per pound. For the largest factories, 80,000 pounds and over,

TABLE 1.—RELATIVE COSTS OF MANUFACTURING CHEESE AS INDICATED BY TWO METHODS OF CALCULATION

| Size of factory (Pounds of cheese) | Method I. Actual rates charged | | Method II. Costs, including interest and depreciation at established rates | | Difference between two methods |
|---|---|---|---|---|---|
| | No. of factories | Cost per pound (cents) | No. of factories | Cost per pound (cents) | (cents) |
| Under 40,000 | 46[1] | 1.86 | 47 | 3.02 | 1.16 |
| 40,000 – 59,999 | 53 | 1.85 | 53 | 2.49 | 0.64 |
| 60,000 – 79,999 | 9 | 1.78 | 9 | 2.04 | 0.26 |
| 80,000 and over | 11 | 1.83 | 11 | 2.18 | 0.35 |
| Total or average | 119 | 1.84 | 120 | 2.52 | 0.68 |

[1] One factory omitted—no actual rate charged.

NOTE.—Average expense per factory: Method I, $858.53: Method II, $1,174.37.

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[1] Commissioner, Agricultural Economics Branch, Ottawa.

[2] Field Assistant, Agricultural Economics Branch, Ottawa.

[3] See The Economic Annalist, Vol. III, Nos. 10, 11, 12, pp. 99–102, and Scientific Agriculture, No. 15, pp. 269–272.

costs were 1.83 cents per pound. The average expense for all factories was $858.53 per factory or 1.84 cents per pound of cheese.

It was found on examining the costs as given by method I that all charges were not fully met. Factory owners and managers of patron concerns did not make adequate allowance for depreciation and interest in arriving at the rates to be charged for cheese production. Slightly more than half of the Quebec factory owners were charging 15% of the value of the product made. In 1931, when cheese was selling at around 11 cents, the receipts to these makers only averaged 1.60 to 1.70 cents per pound whereas when cheese prices were higher they were receiving from 2 to 3 cents per pound. Consequently eleven of the 100 owner-makers actually had cash deficits while the majority did not receive sufficient to cover cash costs, interest, depreciation and a living wage. The other owner-makers were charging from 1¾ to 2⅛ cents per pound, but though they were receiving more than those who worked on a percentage basis, they too were unable to meet all the expenses incurred when depreciation and interest costs were adequately provided for. The same may be said of the 20 factories which were owned by the patrons; in many cases patrons actually lost part of their capital in 1931 by not adequately covering depreciation.

The general practice in cheese factory operation is to meet replacement costs as they occur, but owing to the retrenchment which was taking place in 1931 many factory owners probably spent less than usual on capital items. It was found that expenditures to meet depreciation (*i.e.*, new equipment for replacement purposes and reconstruction of buildings) was $6,156.00 for the 120 factories which amounted to only 30.8% of the estimated depreciation for the year of the study. The amounts spent on some factories were greater than for others and of course rates of depreciation do vary in different factories. In order, however, to place all concerns on the same basis and also to take into consideration all the costs incurred in factory operation, method II was adopted.

The costs as listed under method II, Table 1, are made up of the following charges: (1) the actual cash operating expenses (excluding sums spent on capital items and wages to makers); (2) interest on capital invested at 5%, depreciation on frame buildings at 5% and on brick or stone structures at 3% of the present value, and depreciation on equipment calculated on the "years future use" basis; present values and years future use were obtained for the major items of equipment; by dividing the years into the present value a depreciation figure for the year of the study was obtained; (3) makers' salaries taken from estimates derived from makers and also by deducting their expenses from the amounts they received.

TABLE 2.—RANGE OF COSTS PER POUND FOR MANUFACTURING CHEESE

| Costs (cents per lb.) | Number in class | Weighted average | Per cent of total | Costs (cents per lb.) | Number in class | Weighted average | Per cent of total |
|---|---|---|---|---|---|---|---|
| 1.5 – 1.99[1] | 17 | 1.84 | 14.2 | 4.0 – 4.49 | 5 | 4.27 | 4.2 |
| 2.0 – 2.49 | 47 | 2.27 | 39.2 | 4.5 – 4.99 | 1 | 4.83 | 0.8 |
| 2.5 – 2.99 | 24 | 2.75 | 20.0 | 5 + | 1 | 5.58 | 0.8 |
| 3.0 – 3.49 | 17 | 3.26 | 14.2 | | | | |
| 3.5 – 3.99 | 8 | 3.63 | 6.7 | Total or average | 120 | 2.52 | 100.0 |

[1] The lowest cost was 1.68 cents per pound.

Turning to Table 1 again it can be seen that the average cost per pound for manufacturing cheese was 2.52 cents when all charges were taken into account (method II). The data reveal a wide difference in cost between actual rates charged and cost of operation including interest and depreciation in the first two groups of factories. It would appear that a rate ranging from 2.5 to 3 cents per pound would have to be charged when production per factory was less than 60,000 pounds in order that all expenses might be met. In the larger factories total charges were more nearly in line with actual rates received than in the smaller units. In the last two groups of factories a rate of 2–2⅛ cents per pound would be sufficient to cover all costs.

*The Effect of Volume on Costs.*—Besides portraying the difference in costs between methods I and II, Table 1 also shows the effect of volume on costs of production. Factories in which production was less than 40,000 pounds had a cost of 3.02 cents per pound when all items of expense were included while the rate in the largest concerns was 2.18 cents, a difference of 0.84 cents per pound. One of the 11 factories in this larger group, however, had exceptionally high costs, and when it was excluded the other 10 averaged 2.03 cents. Thus, the trend in costs from small to large groups was definitely downwards.

An analysis of the individual items of expense, the data for which are not included in this article, showed that decreases in interest, depreciation and labour costs per unit of product were chiefly responsible for the reduction in cost of manufacture as volume of production increased.

In Table 2 the influence of volume of production is also shown. It was found that the extreme range in costs was from 1.68 to 5.58 cents per pound, a difference of 3.90 cents. The 5.58 cent rate was for the smallest factory while the 1.68 cent figure was for one of the larger plants.

TABLE 3.—COMPARISON OF COST PER POUND OF CHEESE OF MAIN ITEMS OF EXPENSE BY AREAS

| Main items of expense | Cost per pound of cheese (cents per pound) | | | |
|---|---|---|---|---|
| | Combined area 120 factories | Northern area 60 factories | Southern area 60 factories | Difference Northern over Southern |
| Boxes | .277 | .322 | .232 | .090 |
| Supplies | .255 | .293 | .218 | .075 |
| Fuel | .200 | .245 | .156 | .089 |
| Taxes and insurance | .105 | .154 | .055 | .099 |
| Organization salaries | .043 | .044 | .042 | .002 |
| Hired labour and board | .080 | .092 | .068 | .024 |
| Maker's salary | .861 | .825 | .897 | −.072 |
| Other factory expense | .037 | .048 | .026 | .022 |
| Repairs | .048 | .060 | .036 | .024 |
| Interest | .257 | .318 | .196 | .122 |
| Depreciation | .358 | .444 | .272 | .172 |
| Total expense | 2.521 | 2.845 | 2.198 | .647 |

*Cost of Production by Areas.*—Manufacturing costs varied considerably between the northern and southern area of Quebec. The northern area comprises Lac St. Jean and Chicoutimi Counties and is represented in this study by 60 factories, while the cheese producing area south of the St. Lawrence (the southern area) is also represented by 60 factories. In Table 3, the costs for the main items of expense, together with the total expense per pound of cheese, are listed for each of the districts and for the combined area. The total expense averaged 2.845 cents per pound in the north and 2.20 cents in the south. Every item of expense except that of makers' salary was found to be considerably higher in the northern area than it was in the southern area. The higher costs for boxes, supplies, fuel and repairs were due to the distance of northern factories from distributing centres for these items. A recently constructed water system or aqueduct was responsible for the higher taxation in the north. Interest and depreciation were greater because average factory valuations in the north were $900 higher than in the south. In all, the difference in cost of manufacturing between the two areas averaged 0.647 cents per pound of cheese, or $300 per factory, despite the fact that there was only 50 pounds difference in average production of cheese per factory as between the two areas.

*Summary and Conclusions.*—Cheese factory production in the province of Quebec has been declining since the early years of the present century. Decreased volume of production in factories which even under more favourable conditions had small turnovers, is resulting in high cost of production per unit of product. In seeking a solution to this problem the suggestion has frequently been made that cheese factory districts should be consolidated and many of the factories closed. It may be said that the difference in costs incurred by factories included in this study is not large enough to warrant a strong case being made for factory consolidation. It should be noted, however, that the real possibilities in this connection cannot be demonstrated in factories of this size. In order to obtain minimum costs the production per factory should be very much larger than any included in this study.

The data obtained, however, indicate that a considerable saving can be made in costs by having a greater volume per factory. This is achieved by making maximum use of labour, plant and equipment. In many cases greater volume could be obtained by the amalgamation of factory districts and by the closing of unnecessary factories. This, in turn, would mean longer hauls for patrons or the organization of milk routes.

There were no milk routes in connection with any of the 120 factories studied in Quebec as practically all the patrons lived within two miles of a factory. Route hauling, therefore, would be a complete change from the present system. The type and condition of roads as well as costs would have to be considered before patrons decided to make this change.

An alternative to consolidation as a means to lowering costs would be an endeavour to increase volume of output per factory by other methods. This might be done by increasing the number of patrons per factory or by adding to the volume of milk delivered by each patron. At present there is an average of 20 patrons per factory in Quebec who, as a rule, have about 9 or 10 cows. Factories operate nearly 6 months in the year and in this period an average of 2,438 pounds of milk per cow is delivered. Much could be done to increase volume of cheese production by lengthening the period of factory operation and by increasing the production per cow.

The present charges for cheese manufacture will have to be raised if many of the factory owners are to remain in business. This is particularly true in cases where the rate charged is set as a percentage of the value of cheese produced. The alternative to higher charges per pound of cheese manufactured is larger volume of production per factory.

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According to British newspaper reports an agreement has been reached between the Pigs and Bacon Marketing Boards in regard to the contracts for bacon pigs for the 10-month period commencing March. The price has already been fixed for the first two months at 12s. 6d. per score for a basic pig in Class 1. This price will be subject to a levy of 6d. per score to repay the co-operative loan which was advanced to cover curers' losses in the last contract period. For the following eight months the price will be based on the cost of producing the pig, the cost of curing it into bacon, and the selling price of bacon. In this way the producer will share in the whole process.

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The Canadian Federation of Dairy Farmers was organized at Ottawa on March 15th. A. H. Mercer, Fraser Valley Milk Producers' Association, Vancouver, was elected president. J. F. Desmarais, Co-operative Fédérée de Quebec, and W. A. Amos, United Farmers' Co-operative Company, Toronto, were elected vice-presidents, and H. B. Cowan of Peterborough was appointed secretary-treasurer.

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Press reports state that Dr. Wm. Allen, who was appointed a Royal Commissioner to inquire into the marketing of milk in Saskatchewan has recommended that a plan of control similar to that inaugurated under the Manitoba Public Utilities Commission in 1932 and adopted in Alberta in 1933 be inaugurated in Saskatchewan. The report, it is understood, will be the basis of legislation to be introduced at the present session of the Legislature.

# BUSINESS ANALYSIS OF THE OPERATIONS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA[1]

A. E. RICHARDS[2]

Returns are received by the Agricultural Economics Branch annually on a voluntary basis from farmers' business organizations throughout Canada. These are grouped provincially under commodity headings, and the business operations of certain groups are analysed on a comparable basis in order to bring out strong and weak points in the organization of individual companies.

In 1932, for Canada as a whole, returns were received from 110 co-operative companies handling fruit. These companies reported combined shareholders and members numbering 8,232 who contributed to a total business of $7,679,713. The Nova Scotia returns for the same year were received from 44 companies with a membership of 1,086 who reported $1,487,209 of business.

The combined and comparative balance sheets and operating statements of ten Nova Scotia fruit companies are shown in Tables 1 and 2 for the year ending May 31, 1931. Returns for that period are used in this analysis as they were more complete than for the year 1932.

The season 1930-31 and the two or three years preceding brought unusual difficulties for the fruit grower in a disorganized export market and low prices. In order to tide the grower over what was looked upon as a temporarily bad situation, and to hold his patronage, companies sold their feed and supplies on credit. This in turn led to borrowings on the part of the companies which resulted in heavy indebtedness and high interest charges. To meet competition or satisfy patrons, operating margins were narrowed to a point where some companies were not covering overhead. This situation is reflected in the financial statements of the companies in Tables 1 and 2.

*Assets.*—Accounts and notes receivable under current assets amount to $141,191.36 (Table 1). For most companies this figure indicates a liberal credit policy which once instituted is difficult to overcome. It results in a heavy load for the companies to carry, for on the other side of the balance sheet under current liabilities, we find an equivalent sum for accounts payable. Merchandise inventory is a sizeable item due to the fact that nearly half of the business of these fruit companies is derived from the sale of merchandise and supplies. With the fiscal year closing in the spring of the year, stocks of fertilizer and other supplies are probably higher than in some other seasons when the balance sheet items would show quite a different relation to one another.

The combined value of plant and equipment, including real estate, totals $161,010.22 or 41.7% of total assets. The ratio of business to plant value (Table 3) for all companies is 3.14 to 1 which means that on the average the companies did $3.14 of business for each $1.00 plant value. Some companies show a higher ratio, which usually means a more intensive use of plant and equipment, and this in turn is associated with a proportionally lower overhead.

*Debt and Net Worth.*—Accounts payable is a large item amounting to $143,386.90 or 37.2% of all liabilities and net worth. Bank loans appear unduly large also, amounting to $63,038.88 which is 16.3% of all liabilities and net worth. Along with other current liabilities the total assumes larger proportions than is generally considered desirable. The ratio current assets to current liabilities brings out the situation more clearly but less encouragingly. Table 3 shows the ratio for all companies which stands 0.91 to 1 and means that all companies combined have 91 cents of readily convertible assets for each $1.00 of current indebtedness. Company K shows a comparatively strong position in this regard but other companies are considerably below what is considered the standard for many types of business.

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[1] This article deals with a section of a report on farmers' business organizations in Canada awaiting publication by the Agricultural Economics Branch.

[2] Agricultural Economist, Department of Agriculture, Canada.

TABLE 1.—COMPARATIVE BALANCE SHEETS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA AS AT MAY 31, 1931*

| | Total all companies | | K | L | M | N | O | P | Q | R | S | T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ | % | % | % | % | % | % | % | % | % | % | % |
| Cash on hand and in bank | 5,077.55 | 1.3 | 4.3 | 0.4 | 2.4 | — | — | 3.0 | 4.4 | 0.5 | 0.9 | 0.9 |
| Accounts and notes receivable | 141,191.36 | 36.6 | 31.4 | 36.5 | 47.2 | 20.4 | 22.5 | 15.5 | 44.4 | 32.2 | 70.1 | 31.5 |
| Merchandise inventory | 66,491.73 | 17.3 | 17.8 | 1.9 | 9.6 | 30.1 | 24.0 | 30.3 | 19.7 | 35.3 | 5.9 | 11.8 |
| Other | 2,643.18 | 0.7 | 0.9 | 1.4 | 1.3 | — | — | 1.1 | 0.3 | 0.9 | — | 0.3 |
| Total current assets | 215,403.82 | 55.9 | 54.4 | 40.2 | 60.5 | 50.5 | 46.5 | 49.9 | 68.8 | 68.9 | 76.9 | 44.5 |
| Plant, less depreciation | 161,010.22 | 41.7 | 43.4 | 58.5 | 30.1 | 46.4 | 47.0 | 46.8 | 28.8 | 30.1 | 21.8 | 52.6 |
| Other | 9,200.00 | 2.4 | 2.2 | 1.3 | 9.4 | 3.1 | 6.5 | 3.3 | 2.4 | 1.0 | 1.3 | 2.9 |
| Total fixed assets | 170,210.22 | 44.1 | 45.6 | 59.8 | 39.5 | 49.5 | 53.5 | 50.1 | 31.2 | 31.1 | 23.1 | 55.5 |
| Total assets | 385,614.04 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| LIABILITIES AND NET WORTH | | | | | | | | | | | | |
| Accounts payable | 143,386.90 | 37.2 | 23.8 | 49.2 | 38.3 | 40.8 | 36.0 | 20.3 | 30.5 | 28.7 | 102.5 | 18.2 |
| Bank loans | 63,038.88 | 16.3 | — | 3.9 | 8.8 | 46.8 | 37.3 | 23.7 | 17.8 | 24.2 | — | 20.9 |
| Accrued expenses | 2,911.97 | 0.8 | 1.0 | 0.6 | 0.4 | 1.5 | 1.8 | 0.3 | 1.0 | 0.6 | 0.1 | 1.0 |
| Other | 28,055.00 | 7.3 | — | 1.0 | 12.8 | — | — | — | — | 9.8 | — | 19.0 |
| Total current liabilities | 237,392.75 | 61.6 | 24.8 | 54.7 | 60.3 | 89.1 | 75.1 | 44.3 | 49.3 | 63.3 | 102.6 | 59.1 |
| Mortgages | 33,500.00 | 8.7 | 26.9 | 17.7 | — | — | — | 10.2 | 14.9 | 7.4 | — | 3.9 |
| Total fixed liabilities | 33,500.00 | 8.7 | 26.9 | 17.7 | — | — | — | 10.2 | 14.9 | 7.4 | — | 3.9 |
| Capital stock | 90,293.10 | 23.4 | 28.9 | 24.4 | 33.7 | 15.9 | 18.4 | 14.6 | 20.2 | 22.6 | 8.6 | 30.4 |
| Reserve for contingencies | 4,791.32 | 1.2 | — | — | 3.2 | — | — | 16.8 | 3.1 | — | 2.0 | — |
| Other | 21,025.55 | 5.5 | 5.4 | 13.0 | 2.7 | — | 0.6 | 7.5 | 2.2 | 1.8 | 4.4 | 6.7 |
| Surplus | −1,388.68 | −0.4 | 14.0 | −9.8 | 0.1 | −5.0 | 5.9 | 6.6 | 10.3 | 4.9 | −17.6 | −0.1 |
| Total net worth | 114,721.29 | 29.7 | 48.3 | 27.6 | 39.7 | 10.9 | 24.9 | 45.5 | 35.8 | 29.3 | − 2.6 | 37.0 |
| Total liabilities and net worth | 385,614.04 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

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* Individual plants are designated by letters K, L, M, etc.

Along with mortgages of $33,500.00 for all companies total debt to outside interests amounts to $270,892.75 which is greatly in excess of owned capital represented in the net worth. The ratio of worth to debt brings out the real position, which for all companies is .42 to 1 or, in other words, for every 42 cents contributed and held in the name of the members outside creditors have $1.00 invested and expect to be paid back in full, with interest. No company among the ten shows an excess of worth and for some the position is far from satisfactory.

Working capital is the difference between current assets and current liabilities. For the companies combined this is a minus quantity and is suggestive of financial difficulties. Five companies show a small working capital of less than 1% of total assets.

A number of companies are without reserves and on the year's operations failed to provide a surplus. For the companies as a whole there is a debit balance of $1,388.68 although six out of the ten show a surplus.

*The Operating Statement.*—Total business amounted to $506,358.08. Farm products, which consisted almost entirely of apples, sold for $261,412.61. This made up 51.6% of the business. Producers were paid $247,658.43 or 94.73% of the sales price. This is equivalent to an operating margin of slightly over 5%; such a narrow spread, of necessity, means that no reserves could be built up with which to reduce indebtedness. Merchandise and supplies with a sales value of $242,009.52 accounted for 47.8% of the total business. The cost of this merchandise was $226,571.68 which gave a spread of 6.8% to cover handling costs.

An average operating margin of only 5% on fruit sales and 7% on merchandise means that some of the companies are turning back everything to the grower of fruit and providing supplies at cost or less than cost. A company has no chance to establish a sound business structure following such a policy and only a business without creditors and with ample reserves can afford to follow such a course and survive. Members of a co-operative fruit company must realize that the warehouse is as much a part of their property and business as the orchard and requires just as fair treatment and business-like handling.

In the items of expense the charge for wages and salaries was $11,027.61, which amounts to 2.2% of total business. Interest on borrowed money, the other large item, totals $8,427.06 or 1.7% of the total volume of business. Insurance and taxes combined are less than one-half of one per cent. In relation to total expenses wages and salaries use 34.3% and interest 26.2%. For three companies interest was the largest item of expense and exceeded 30%. Total expenses for all companies amounted to 5.8% of total business with individual companies ranging from 3 to 13%. The net operating income or net profit for all companies was $2,970.03. To this was added other income of $23,465.52 which, for many companies, was unapportioned surplus carried forward from the previous year. A small part of the net income for distribution was paid out in dividends but the greater portion was again carried into the next year as undivided income. No allowance was made for patronage refund and nothing was carried to reserve.

*Constructive Financial Policy Necessary.*—This analysis indicates the need of a definite and constructive financial policy. If, for example, the financial statements of these ten fruit warehouses as shown in Tables 1 and 2 could be considered as representing one large company and if the patrons would agree to stand together and ignore competitors who might offer small immediate gains, in five years the combined statement would present a very different picture.

If the patrons of the company would agree to permit the warehouse to increase its margin by 5% on fruit sales and by 2% on merchandise sales they would still be operating on a comparatively small margin. In other words, they would agree to accept 90 cents of the sales dollar from fruit in place of 95 cents and allow a margin

TABLE 2.—COMPARATIVE OPERATING STATEMENTS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA FOR THE YEAR ENDING MAY 31, 1931*

| | Total all companies | | | K | | L | | M | | N | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin |
| Total business | 506,358.08 | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | |
| Sales of farm products | 261,412.61 | 51.6 | | 48.0 | | 82.1 | | 84.0 | | 76.6 | |
| Paid to producers | 247,658.43 | 48.9 | | 46.5 | | 77.9 | | 74.4 | | 65.4 | |
| Gross margin | 13,754.18 | 2.7 | | 1.5 | | 4.2 | | 9.6 | | 11.2 | |
| Sales of merchandise | 242,009.52 | 47.8 | | 51.9 | | 15.0 | | 14.9 | | 22.9 | |
| Cost of merchandise | 226,571.68 | 44.7 | | 48.0 | | 12.0 | | 14.0 | | 22.3 | |
| Gross margin | 15,437.84 | 3.1 | | 3.9 | | 3.0 | | 0.9 | | 0.6 | |
| Other receipts | 2,935.95 | 0.6 | | 0.1 | | 2.9 | | 1.1 | | 0.5 | |
| Total gross margin | 32,127.97 | 6.4 | 100.0 | 5.5 | 100.0 | 10.1 | 100.0 | 11.6 | 100.0 | 12.3 | 100.0 |
| EXPENSES | | | | | | | | | | | |
| Wages and salaries | 11,027.61 | 2.2 | 34.3 | 0.5 | 8.9 | 3.7 | 36.8 | 9.3 | 80.4 | 7.4 | 60.5 |
| Rental | — | — | — | — | — | — | — | — | — | — | — |
| Depreciation | 498.54 | 0.1 | 1.6 | — | — | — | — | 0.3 | 2.1 | 0.2 | 1.3 |
| Supplies | 977.48 | 0.2 | 3.0 | 0.1 | 2.8 | 0.5 | 4.9 | 1.0 | 8.8 | — | — |
| Insurance | 1,311.15 | 0.3 | 4.1 | 0.3 | 4.8 | 0.4 | 4.4 | 0.2 | 1.7 | 0.3 | 2.4 |
| Taxes | 1,072.21 | 0.2 | 3.3 | 0.3 | 4.7 | 0.7 | 6.7 | 0.4 | 3.1 | 0.4 | 3.1 |
| Interest on borrowed money | 8,427.06 | 1.7 | 26.2 | 0.7 | 13.5 | 2.9 | 28.9 | 0.1 | 0.7 | 2.3 | 18.8 |
| Maintenance | 5,294.68 | 1.0 | 16.5 | 0.9 | 16.4 | 0.6 | 5.7 | 0.4 | 3.7 | 0.4 | 3.7 |
| Other | 549.21 | 0.1 | 1.7 | 0.4 | 6.9 | 0.5 | 4.6 | — | — | 0.8 | 6.3 |
| Total expenses | 29,157.94 | 5.8 | 90.7 | 3.2 | 58.0 | 9.3 | 92.0 | 11.7 | 100.5 | 11.8 | 96.1 |
| Net operating income | 2,970.03 | 0.6 | 9.3 | 2.3 | 42.0 | 0.8 | 8.0 | −0.1 | −0.5 | 0.5 | 3.9 |
| Other income | 23,465.52 | 4.6 | 73.0 | 7.0 | 126.8 | 21.2 | 210.2 | 0.1 | 0.9 | −4.3 | −34.6 |
| Net income for distribution | 26,435.55 | 5.2 | 82.3 | 9.3 | 168.8 | 22.0 | 218.2 | 0.0 | 0.4 | −3.8 | −30.7 |
| Dividends on capital | 401.49 | 0.1 | 1.3 | 1.0 | 19.2 | — | — | — | — | — | — |
| Total apportioned | 401.49 | 0.1 | 1.3 | 1.0 | 19.2 | — | — | — | — | — | — |
| Undivided income | 26,034.06 | 5.1 | 81.0 | 8.3 | 149.6 | 22.0 | 218.2 | 0.0 | 0.4 | −3.8 | −30.7 |

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* Individual plants are designated by letters K, L, M, etc.

TABLE 2.—COMPARATIVE OPERATING STATEMENTS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA FOR THE YEAR ENDING MAY 31, 1931*—*Concluded*

| | O | | P | | Q | | R | | S | | T | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin | % of total business | % of gross margin |
| Total business | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | |
| Sales of farm products | 78.0 | | 62.6 | | 68.2 | | 31.0 | | 42.9 | | 37.1 | |
| Paid to producers | 66.0 | | 60.5 | | 67.6 | | 29.0 | | 41.8 | | 35.3 | |
| Gross margin | 12.0 | | 2.1 | | 0.6 | | 2.0 | | 1.1 | | 1.8 | |
| Sales of merchandise | 21.7 | | 37.0 | | 31.4 | | 67.5 | | 57.0 | | 62.9 | |
| Cost of merchandise | 20.4 | | 35.8 | | 27.2 | | 61.3 | | 53.5 | | 61.2 | |
| Gross margin | 1.3 | | 1.2 | | 4.2 | | 6.2 | | 3.5 | | 1.7 | |
| Other receipts | 0.3 | | 0.4 | | 0.4 | | 1.5 | | 0.1 | | 0.0 | |
| Total gross margin | 13.6 | 100.0 | 3.7 | 100.0 | 5.2 | 100.0 | 9.7 | 100.0 | 4.7 | 100.0 | 3.5 | 100.0 |
| EXPENSES | | | | | | | | | | | | |
| Wages and salaries | 8.0 | 58.9 | — | — | 2.3 | 44.3 | 3.2 | 32.8 | 1.3 | 27.2 | — | — |
| Rental | — | — | — | — | — | — | — | — | — | — | — | — |
| Depreciation | 0.1 | 0.7 | 0.2 | 4.1 | 0.0 | 1.0 | 0.3 | 2.7 | 0.0 | 0.9 | 0.1 | 1.8 |
| Supplies | — | — | 0.6 | 16.3 | 0.1 | 1.4 | — | — | — | — | 0.2 | 5.1 |
| Insurance | 0.3 | 2.5 | 0.1 | 3.1 | — | — | 0.5 | 5.6 | 0.1 | 2.5 | 0.3 | 8.2 |
| Taxes | 0.6 | 4.2 | 0.1 | 3.3 | — | — | 0.5 | 5.7 | 0.2 | 4.8 | — | — |
| Interest on borrowed money | 2.8 | 20.6 | 0.7 | 18.2 | 0.8 | 14.7 | 3.9 | 40.3 | 1.9 | 39.3 | 1.3 | 36.9 |
| Plant maintenance | 1.1 | 7.9 | 1.7 | 44.9 | 0.4 | 8.6 | 1.2 | 12.3 | 0.3 | 5.3 | 1.7 | 49.0 |
| Other | 0.3 | 2.4 | 0.0 | 1.1 | — | — | — | — | 0.0 | 0.1 | 0.0 | 1.1 |
| Total expenses | 13.2 | 97.2 | 3.4 | 91.0 | 3.6 | 70.0 | 9.6 | 99.4 | 3.8 | 80.1 | 3.6 | 102.1 |
| Net operating income | 0.4 | 2.8 | 0.3 | 9.0 | 1.6 | 30.0 | 0.1 | 0.6 | 0.9 | 19.9 | −0.1 | −2.1 |
| Other income | 4.9 | 36.2 | 4.0 | 106.0 | 4.1 | 80.6 | 5.4 | 55.7 | 14.3 | 302.8 | — | — |
| Net income for distribution | 5.3 | 39.0 | 4.3 | 115.0 | 5.7 | 110.6 | 5.5 | 56.3 | 15.2 | 322.7 | −0.1 | −2.1 |
| Dividends on capital | — | — | — | — | — | — | — | — | — | — | — | — |
| Total apportioned<br>Undivided income | 5.3 | 39.0 | 4.3 | 115.0 | 5.7 | 110.6 | 5.5 | 56.3 | 15.2 | 322.7 | −0.1 | −2.1 |

* Individual plants are designated by letters K, L, M, etc.

TABLE 3.—RATIO TESTS APPLIED TO OPERATIONS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA FOR THE SEASON 1930-31[1]

| | All[2] | K | L | M | N |
|---|---|---|---|---|---|
| Current assets to current liabilities | 0.91 to 1 | 2.20 | 0.74 | 1.00 | 0.57 |
| Worth to debt | 0.42 to 1 | 0.93 | 0.38 | 0.66 | 0.12 |
| Business to plant value | 3.14 to 1 | 3.91 | 0.79 | 5.32 | 2.84 |
| Net worth to fixed assets | 0.67 to 1 | 1.06 | 0.46 | 1.00 | 0.22 |
| Per cent working capital of total assets | — | 0.19 | — | 0.01 | — |
| Per cent net worth of all liabilities | 29.75 | 48.30 | 27.56 | 39.65 | 10.91 |
| Per cent expenses of business | 5.8 | 3.21 | 9.29 | 11.67 | 11.78 |
| Business per employee | $ — | 4,198 | 1,988 | 1,372 | 5,021 |
| Business per patron | $ 1,217 | 1,181 | 585 | 686 | 628 |

TABLE 3.—RATIO TESTS APPLIED TO OPERATIONS OF TEN CO-OPERATIVE FRUIT COMPANIES IN NOVA SCOTIA FOR THE SEASON 1930-31[1]—*Concluded*

| | O | P | Q | R | S | T |
|---|---|---|---|---|---|---|
| Current assets to current liabilities | 0.62 | 1.13 | 1.39 | 1.09 | 0.75 | 0.75 |
| Worth to debt | 0.33 | 0.84 | 0.56 | 0.41 | — | 0.59 |
| Business to plant value | 2.35 | 3.77 | 8.65 | 2.99 | 5.67 | 3.21 |
| Net worth to fixed assets | 0.46 | 0.91 | 1.15 | 0.94 | — | 0.67 |
| Per cent working capital of total assets | — | 0.06 | 0.19 | 0.06 | — | — |
| Per cent net worth of all liabilities | 24.88 | 45.50 | 35.81 | 29.30 | — | 37.00 |
| Per cent expenses of business | 13.20 | 3.41 | 3.61 | 9.62 | 3.77 | 3.62 |
| Business per employee | $ — | — | 5,991 | 8,118 | 5,533 | 6,124 |
| Business per patron | $ 342 | 812 | 2,330 | 1,827 | 885 | 2,156 |

[1] Individual plants are designated by letters K, L, M, etc.

[2] Considering the ratios in the form of a fraction, 1 is to be understood as the denominator in all cases.

of 8.8 cents on the sales dollar for supplies. If the surplus which would accrue from such a working arrangement were put aside in reserve, in one year there would be a fund built up which would reduce the mortgage by one-half and in five years practically the entire present indebtedness would be cleared off. This pre-supposes that the number of companies handling fruit are necessary and it is in the interest of the industry to maintain all of them in operation.

If there is duplication of services and under-capacity volume of business which this analysis and other surveys of the Nova Scotia fruit packing industry seem to indicate, then some of the warehouses may not be essential to the welfare of the industry. A recent investigation into the economic aspects of the apple industry in Nova Scotia points out that there are 25 warehouses on one branch line of 13.6 miles or an average of 1.8 warehouses per mile[3]. The majority of the plants were built in the time of horse drawn vehicles when close proximity to the orchard and packing house were more necessary than to-day. Improved roads and the motor truck have changed the situation. Regional reorganization with consolidation of a number of the low capacity houses would increase the volume per plant and should thereby reduce the cost per unit.

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[3] Longley, Willard V. Some economic aspects of the apple industry in Nova Scotia. N.S. Dept. Agr. Bull. 113. 1932.

## ECONOMIC LITERATURE

Rye, The Production and Distribution of Coarse Grains, III. Agricultural Branch, Dominion Bureau of Statistics, Department of Trade and Commerce, Ottawa, p. 32.

This publication is the third of a series dealing with statistical and other data relating to Canadian coarse grains, their place in world production and trade.

Rye has never assumed a very important place in cereal production in Canada, reflecting, of course, a limited market in a country where wheat is cultivated on a large scale. In 1933 the area sown was 583,500 acres, which represented 1.3% of the total area sown to the four main cereals for that year. The area devoted to rye has decreased rapidly during the last few years; in 1930 rye acreage reached its highest peak in the past ten years. Prior to the war the acreage was small and relatively stable. Under the stimulus of the war and post-war demand acreage increased from 111,280 acres in 1914 to 2,105,367 acres. Large decreases occurred in 1923 and 1924 but from 1925 to 1930 rye acreage rose steadily, after which time decreases again took place. It is apparent, therefore, that the development of the rye industry in Canada has been marked by radical increases and decreases.

In spite of the increase in wheat production and consumption in the past thirty years, the world still consumes from 1½ to 2 billion bushels of rye annually. The fact that rye is still the chief food of millions of people indicates in a tangible way the merits of the grain as a bread stuff. Rye bread is most generally used in Russia, Germany and Poland where a large part of the world's crop is produced. In Canada the distilling industry provides the largest industrial outlet for surplus rye, small amounts are used for human food products while a considerable proportion is fed or otherwise consumed on farms.

In addition to the information on the production and uses of rye which has been briefly summarized in this short review the report also outlines the world production and trade in rye, Canada's trade, prices of rye in Canada and governmental policies in respect to rye in foreign countries.

Kraemer, Erich, and Erdman, H. E. History of Co-operation in the Marketing of California Fresh Deciduous Fruits. Bulletin 55, Agricultural Experimental Station, University of California.

The authors of this bulletin have presented a comprehensive review of the development of co-operative marketing of California fresh deciduous fruits. The history of the California deciduous fruit tree industry dates back to the beginning of the settlement of Alta, California, by the Franciscan fathers in 1769. The first real evidence of commercial fruit production, however, did not appear until the days of the Gold Rush in 1849. From this time onward the authors have traced the development of the various organizations which led up to or fostered the co-operative marketing of California fresh deciduous fruit. The earliest movement for collective actions in connection with the sale of fruit was probably the California Fruit Growers' and Dealers' Association which commenced operations in 1869. Later the California Fruit Union was organized and in time it was replaced by the California Fruit Growers' and Shippers' Association. The California Fruit Union created in 1885 provided the first plan for the establishment of a state-wide grower-owned and grower-controlled co-operative marketing system for fresh deciduous fruits. After the first year, it became a grower-dealer organization. Having lost its grower character and having failed to obtain the expected market control, it passed out of existence during the business depression of 1894. In 1901 another state-wide organization called the California Fresh Fruit Exchange (now the California Fruit Exchange) was formed. At present the Exchange co-ordinates the activities of the large majority of the existing co-operative associations for fresh deciduous fruits and has spread its grower connections over the entire state and into Arizona. In collaboration with the California Fruit Growers' Exchange it has also built up an effective sales system and has made good progress in the development of an export business. To-day approximately 8,000 growers are organized in some 90 local co-operative associations which handle about 11% of the fresh fruits shipped from California, as well as some portion of such commodities sold in the state itself. Most of these organizations are federated with the California Fruit Exchange.

The basic reason for the urge to form co-operative associations throughout the period of sixty-odd years has been low prices to growers. The principal reasons given in explanation for low prices were:—

"(1) High freight and refrigeration charges. (2) High charges by California packers and shippers and by dealers in the East. (3) Dishonest or questionable practices on the part of shippers or on the part of the trade in eastern markets. (4) Lack of aggressiveness on the part of private shippers in developing new markets and correcting evils in transportation or in the eastern markets. (5) Disorganization of markets."

Like many other co-operative movements this one has experienced difficulty in obtaining sufficient grower control which is necessary to overcome disorderly marketing. Because of this "there have been repeated attempts to combine grower and dealer interests so as to include in the organization practically all the fruit."

KOLB, J. H., and POLSON, R. A. Trends in Town-Country Relations. Research Bulletin 117, Agricultural Experiment Station, University of Wisconsin and the United States Department of Agriculture Co-operating.

A study of the trends in town-country relationships is important for it shows the necessity of building town and country life together. Such a study was made in Walworth County, Wisconsin, in 1929, and the results are presented in this bulletin. Comparisons are made with a similar study conducted in 1913.

There have been many general changes in Walworth County since 1913. The percentage of native born rose from 75% to 89.5%; the proportion living in the open country and unincorporated centers has been decreasing. The population of incorporated places increased 13.5%. Changes in dairying, the chief industry, have been made to meet the city demand for milk. Villages and small town receiving and processing plants have been replacing small milk stations and creameries.

There have been changes in seven main service areas. Library service areas have increased 158% since 1913; the high school has helped to bring about this change. Milk marketing areas have made a net gain of 64%; this has been due to improved roads, truck transportation and the tendency toward centralized control. The net expansion in high school areas has been 49%. Rural enrolment ranges from 40 to 50% of the total depending on the size of the center. Grocery services have expanded 22%. Chain stores now operate in every center with over 700 population. The old general store has been replaced by a type which carries a few "lines". On the whole there has been no marked increase in the affiliation of country people with the village or town church. Changes in areas for dry goods services have been erratic. Country people have changed their wants more rapidly than the men in the business have changed their methods to satisfy them. Banking service areas show the least net change, though six centers have lost territory while five gained. "Banking service, like grocery and dry goods services, seems to be gravitating toward those men and institutions which are aggressively attempting to give a modern type of service adapted to their country and village or town constituents."

Farm families use on the average four service centers per family, namely, a cross roads, hamlet or very small village center, two villages or small town centers, some city center. Mail order houses are used as well. Country centers are important for restricted merchandise and for primary educational and church services. Towns and villages are increasingly becoming the main centers for many of the services required by farm families. It can now be said that town and country are uniting to form a larger rural community. Farm families go to urban centers for special medical and hospital care, good clothes, and furniture.

## NOTES

A statement concerning the Wheat Agreement was made by the Rt. Hon. R. B. Bennett in the House of Commons on March 13, 1934. Legislation has been agreed upon by the four Governments and has been introduced in the legislatures of the provinces of Manitoba, Saskatchewan and Alberta. The proposed legislation empowers the Lieutenant Governor in Council in each of the provinces to set up an emergency Wheat Control Board with power to license and restrict within the province sales and deliveries of wheat. In lieu of separate provincial Boards a joint Board may be set up by the three prairie provinces or by one or more or all of the provinces in conjunction with the Dominion. A province can enact legislation dealing with sales and deliveries within its own borders, but enabling legislation by the Dominion is required to permit control of sales and deliveries outside of a province. With respect to a wheat Board, Parliament will be invited to enact the necessary legislation to enable the Government, in the event of the four governments being of the opinion that the necessity for the same exists, to co-operate with the provinces in establishing a Board with all the necessary authority and powers to deal with any situation which may arise.

The bills to be introduced in the Legislatures of the several provinces will provide also that the Lieutenant Governor in Council shall have power by order-in-council to make all such orders, rules and regulations, and do all such acts and things as in the opinion of the Lieutenant Governor in Council may be necessary and requisite to bring the production of wheat in the province concerned in the year 1934 into proper alignment with the estimated current export demand for the crop season 1934-35 and normal domestic requirements in the same period, having regard to the quota applicable to the Dominion of Canada as provided by Article 2 of the London Wheat Agreement.

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"The Agricultural Situation" is the title of a new publication issued jointly by the Department of Agriculture and the Department of Trade and Commerce, Ottawa.

The preparation of such a report was recommended by the National Advisory Committee on Agricultural Services for Canada which appointed a sub-committee composed of Dr. J. F. Booth, Economics Branch, Department of Agriculture; Dr. T. W. Grindley, Agricultural Branch, Dominion Bureau of Statistics, and Dr. J. E. Lattimer, Macdonald College, P.Q., to study the matter further and to make plans to give effect to their recommendation. The sub-committee therefore arranged for a meeting of representatives of the various branches of the Department of Agriculture, the Commercial Intelligence Service, and the Dominion Bureau of Statistics. At this meeting plans for the formation of "commodity committees" to prepare reports on specified products were developed. The reports of these committees were subsequently received by a "committee of the whole" at which representatives of the provinces of Quebec, Ontario, Saskatchewan and British Columbia were present. The reports were finally edited by a small committee and made available early in March.

The purpose of such a report is to assemble and interpret statistical and other information necessary in planning farm production and marketing policies. Such information it is felt will be of value to extension workers, farmers, and others concerned with the problems of agricultural industry.

A report of this nature cannot be expected to cover all commodities or to be as complete in respect to certain products as to others, but it brings to the farmer in a concise manner information which has been compiled by several agencies. It moreover represents the combined viewpoints of those engaged in diverse fields of research, administration and extension work.

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# The
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS

ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. IV, No. 2 — Published by Authority of the Hon. Robert Weir, Minister of Agriculture — June, 1934

## THE ECONOMIC SITUATION

The index number of wholesale prices in Canada was unchanged at 71.1 in May. The sub-indexes of vegetable products; wood, wood products, and paper; iron and its products; chemicals and allied products advanced, whereas those of animals and their products; fibres, textiles, and textile products; non-ferrous metals and their products, and non-metallic minerals declined.

*Retail Prices.*—The total index of retail prices, rents, and costs of services declined from 79.6 in April to 78.7 in May. The food index dropped from 71.0 to 68.6. The fuel index advanced slightly but the index of rentals was 79.7 as compared with 80.4 in previous months. The latter index is computed only at October 1 and May 1.

*Retail Sales.*—The value of retail sales was lower in April as compared with March. The index therefore fell from 73.6 to 72.1 (1929 = 100), although it should be remembered that the March index was affected by Easter business. Groceries and meats moved downward from 83.0 to 75.1. Candy sales dropped from 93.0 to 66.5. Sales in general and departmental stores declined from 66.8 to 65.2. On the other hand the index of the value of boot sales rose from 70.1 to 76.5; that of clothing advanced from 87.4 to 92.9 and hardware from 72.1 to 104.3.

*Physical Volume of Business.*—The indexes of physical volume of business, industrial production, agricultural marketings and cold storage holdings are not available as this is being written. The reader is referred to the table of indexes for changes which may have taken place.

*Agricultural Products.*—The index of wholesale prices of Canadian farm products advanced from 55.4 in April to 56.9 in May. Field products rose from 48.7 to 51.1. Higher prices for grains contributed largely to this advance. The average price of No. 1 Manitoba Northern wheat was 70.6 cents in May as against 65.5 cents in April. Similarly prices of No. 2 C. W. oats were 34.6 and 32.4 cents respectively. No. 1 C. W. flax was 157.3 as compared with 149.7. No. 2 C.W. rye was 46.4 in May as against 44.1 in April, while No. 3 C. W. barley averaged 38.1 and 36.9 cents in the respective months. The index of animal products receded from 66.6 to 66.5. Lower prices for wool and fresh milk chiefly affected this index. Prices of cattle were also lower but those of hogs and lambs advanced. Egg prices at Montreal, Toronto and Vancouver were higher than in April. Butter prices generally were lower.

*Cold Storage Holdings.*—Cold storage holdings of creamery butter on June 1 were 7.6% above the five year average at that date. Stocks of cheese were 10.6% higher than the average. Supplies of cold storage eggs on the other hand were 11.7% lower. Total stocks of pork were 16.8% below the average. Holdings of beef were 12.6% under and those of veal 10.8% less than the five year average. Supplies of poultry in storage were 4.4% lower.

## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.9 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | | | | | | | | | |
| Jan. | 63.0 | 43.6 | 35.1 | 57.9 | 79.1 | 68.1 | 62.2 | 56.1 | 112.0 |
| Feb. | 63.6 | 43.0 | 36.0 | 54.7 | 78.4 | 67.0 | 60.0 | 76.5 | 127.6 |
| Mar. | 64.4 | 44.7 | 38.0 | 56.0 | 77.8 | 68.4 | 62.5 | 129.0 | 135.8 |
| April | 65.4 | 46.8 | 41.1 | 56.4 | 78.1 | 69.8 | 65.1 | 104.1 | 112.7 |
| May | 66.9 | 51.2 | 46.9 | 58.4 | 77.0 | 76.4 | 72.7 | 95.4 | 110.4 |
| June | 67.6 | 52.6 | 49.4 | 57.9 | 77.0 | 82.2 | 79.8 | 221.9 | 119.9 |
| July | 70.5 | 60.1 | 60.8 | 59.0 | 77.2 | 84.1 | 82.6 | 221.9 | 119.9 |
| Aug. | 69.4 | 57.0 | 54.9 | 60.5 | 78.6 | 89.8 | 89.5 | 197.2 | 114.2 |
| Sept. | 68.9 | 54.7 | 49.5 | 63.4 | 78.8 | 90.8 | 90.2 | 101.1 | 115.7 |
| Oct. | 67.9 | 51.4 | 44.6 | 62.8 | 77.9 | 88.2 | 87.4 | 70.5 | 112.7 |
| Nov. | 68.7 | 53.8 | 46.7 | 65.8 | 78.1 | 85.5 | 83.9 | 41.8 | 111.1 |
| Dec. | 69.0 | 53.3 | 45.3 | 66.6 | 78.4 | 86.2 | 85.1 | 30.7 | 107.6 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.7 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 79.2 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 80.2 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.6 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 55.4 | 66.5 | 78.7 | 99.6 | 99.4 | 130.6 | 102.6 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1931, p. 15.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1931, p. 33, and Monthly Mimeographs 1933 and 1934.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs 1933-1934.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical volume of business n Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

*Crops.*—Crop prospects improved as a result of the general rains during the second week of June. The effect of drought in sections of Eastern Canada are, however, still apparent. Conditions in the Prairie Provinces have become more hopeful although drought, soil drifting, and grasshoppers have all affected cereal production.

*Dairy Production.*—The Dairy News Letter, June 15th, gives the gradings of cheese from December 4, 1933, to June 2, 1934 as 87,761 boxes as compared with 118,279 boxes graded during the period November 28, 1932, to June 3, 1934.

Production of butter for the four months ending April 30, 1934, was 39,766,747 pounds as against 38,185,326 pounds during the first four months of 1933, an increase of 4.2%. Among the provinces, Prince Edward Island and Saskatchewan show decreases of 2.0 and 5.3% respectively. In New Brunswick production increased 48.6%. Nova Scotia creameries increased output 13.2% and in Manitoba production was 6.1% higher. In Alberta and Quebec output was slightly over 5% above that in 1933.

*Prices in Great Britain.*—The Board of Trade index number of wholesale prices (1913 = 100) was 103.8 in March compared with 97.6 in March, 1933. This index did not fluctuate a great deal in 1933; it rose from 97.2 in April until February, 1934, when it reached 105.3. The cost of living index computed by the Ministry of Labour was 139 in April of this year whereas in April, 1933, it was 137. The peak during the past twelve months was reached in December when this index was 143.

The index of prices of agricultural products (1911-1913 = 100) in Great Britain was 108 in March of this year as compared with 102 in March, 1933. During 1933 this index varied from 100 in June to 109 in December. It rose to 114 in January, 1934, but receded to 112 in February and fell another 4 points in March. The importance of this market for Canadian agricultural products emphasizes the necessity of close examination of price movements in Great Britain.

## SASKATCHEWAN MILK ENQUIRY, 1933

The report of the Saskatchewan Milk Enquiry Commission prepared by Dr. Wm. Allen of the University of Saskatchewan, indicates that the problems affecting the marketing of fluid milk in Saskatchewan, except for local conditions, do not differ greatly from those in other provinces. Local differences, such as shortage of feed supplies, cause production costs to be high in some localities and have placed farmers in a precarious position. Surplus milk, which sometimes reaches 50% of the total milk supply, is a most serious factor in the marketing situation. Surplus of plants and general facilities for milk distribution causes costs of marketing to be high and reduces the price the producer receives. Milk distributors are confronted not only by the problem of maintaining a sufficient volume of milk to operate economically but also by the cost of special services given, bottle losses and bad debts. Incomplete enforcement of public health regulations in many localities is causing trouble and is bound to cause more trouble in the future if it continues.

In order to cope with the present situation, the commission advises that the powers of the Local Government Board be extended to include the regulation and control of the production, distribution and marketing of the milk supplies of the cities of the province along lines similar to those authorized in the Provinces of Manitoba and Alberta, the costs of this regulation and control to be borne by the industry.

It is recommended that power be given the Local Government Board to demand standard reports at regular intervals from distributors of market milk to facilitate current examinations of the distribution system.

It is also suggested that local authorities should attempt more rigid enforcement of health regulations, where enforcement is lax. Failing this it is proposed that provincial legislation be set up to take over the control of inspection and licensing of farms producing milk for city consumption, and of plants and agencies handling milk.

Because of the wide variation in quality of milk supplied to the cities and the need for securing a safer milk supply, and because the institution of uniform or similar standards and regulations throughout the market milk industry of the prairie provinces would be highly beneficial, the authorities responsible for the supervision of the production and distribution of milk in Saskatchewan should co-operate with authorities in Manitoba and Alberta in studying this matter fully and making such recommendations as may be warranted with a view to securing appropriate action.

# THE NATURAL PRODUCTS MARKETING ACT, 1934

J. F. Booth[1]

The Natural Products Marketing Act, which received third reading in the House of Commons, Ottawa, on June 7th, is an attempt to give to Canada legislation similar to that at present found in the statutes of the United Kingdom, Australia, and other parts of the Empire. Legislation giving some degree of control over marketing of such products, mainly agricultural, is also to be found in most of the countries of Europe, as well as in other parts of the world. Of necessity, such legislation differs, but a survey of the principles involved leads definitely to the conclusion that underlying all such efforts is the intent to regulate or control either by organizations set up with government sanction or by boards or commissions operated by the state.

It is to be expected that legislation of this nature introduced in Canada would differ to some extent from that to be found elsewhere. In many respects, however, the Canadian Act, if it becomes law in its present form, will resemble the enactments of the United Kingdom and of Australia. In some respects, too, it resembles legislation that was in effect in British Columbia for several years and which was ultimately declared ultra vires because it conferred authority which the courts held was not within the jurisdiction of the provincial legislature.

*Products to be Dealt With.*—It was considered desirable to make the provisions of the Natural Products Marketing Act broad enough to cover, in addition to agricultural products, such products as lumber and fish. The section dealing with this matter definitely specifies most of our major, and some of the less important, agricultural products and states that such other natural products of agriculture and of the forest, sea, lake, or river and any article of food or drink that is wholly or partly manufactured or derived from any such product may be made subject to the provisions of the Act by the Governor in Council. It is not intended that the Act will deal with secondary products other than those classified as food or drink.

*Administration.*—The Act is to be administered by "the Minister designated by the Governor in Council". This is understood, following a statement made in Committee of the House, to mean the Minister of Agriculture.

*Machinery of Regulation.*—The Act provides for a board to be known as the Dominion Marketing Board which is to consist of such number of persons as the Governor in Council may from time to time determine. The Board may employ professional and technical assistants, and shall be a body corporate with head office at Ottawa. It shall advise the Minister on matters pertaining to the Act and regulations made thereunder.

The Dominion Board, referred to in the Act as "the Board", will be financed out of monies to be appropriated by Parliament. In addition to the funds necessary for this purpose it is also provided that Parliament may make available money to assist in the organization of local boards and to meet expenditures incurred in connection with certain operations in the nature of marketing or regulation of marketing that may be undertaken by the Dominion Board in accordance with authority conferred by a special section dealing with this matter.

In addition to the Dominion Board, the Act provides for the setting up of local boards which will be the creation of persons engaged in production and/or marketing of a natural product. Any group of persons engaged in either or both of the functions above mentioned may petition the Governor in Council to approve a "scheme" for the regulation of the marketing of a natural product. The Minister upon receipt of the petition will refer it to the Dominion Marketing Board with a request that the Board consider the expediency thereof. It is assumed that the Board will consider and investigate the desirability of such an undertaking. If the Board reports favourably upon the proposal, the Minister may then recommend its approval either with or without a vote of those who will be directly affected by its operations. The decision by the Minister on whether or not a poll will be required is to be based upon the question of whether those submitting the petition in the first instance adequately represent all persons whose activities will be subject to the regulations of the local board.

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[1] Commissioner, Economics Branch, Department of Agriculture, Ottawa.

The scheme, which is the instrument designed to give effect to the wishes of those concerned with the production and/or marketing of the product to be dealt with, must state in sufficient detail all of the powers that are desired and which may be conferred within the scope of the Act, the arrangements for a poll, if one is proposed, the geographical limits of the territory to be included, whether the scheme is to relate to all of the regulated product or only to such part as enters inter-provincial or export trade, the number of persons who shall comprise the local board and the basis of their selection, and such other information as may be required by the Minister. The language used in dealing with the scheme, and with the local board that will administer it, clearly indicates that the intention is to give to those interested an opportunity to regulate their own business under stated conditions. The local board in charge of the scheme will be subject to the general supervision of the Dominion Marketing Board.

*Powers Conferred.*—The powers conferred by the Act are vested in the Dominion Board with the provision that the latter may delegate to a local board such of its powers as may be requested by a scheme. It is not intended that these powers will be used by the Dominion Board when a local board has been established or when producers or marketers of the product in question are in a position to create a local board. The Act does provide, however, that under conditions that might be referred to as unusual, and where no local board exists, the Dominion Board may undertake the regulation or the marketing of a product in interprovincial or export trade and that it may engage in such activities directly or in co-operation with local boards or through any agency which it may establish. A careful reading of this provision of the Act, and consideration of it in relation to the legislation as a whole, makes it quite clear that the powers thereby conferred are not to be used under ordinary circumstances. In his presentation of the Act to Parliament, the Minister made it plain that it was not intended to use this provision to force an organization on an unwilling group or as a substitute for local action.

With respect to the powers conferred by the Act it is significant that they relate only to the regulation of marketing, except in a case such as referred to where action is taken by the Dominion Board. Local boards will be given power to "regulate the time and place of marketing the regulated product, and to determine the manner of distribution and the quantity and quality or grade of the regulated product that shall be marketed by any person at any time, and to prohibit the marketing of any of the regulated product of any grade or quality." In this clause is embodied the fundamental principle of the legislation, namely, that of regulation with governmental approval. It is not intended that local boards shall engage in the buying or selling of products, nor that they shall disrupt organized trade.

In carrying out the powers conferred by the section quoted, a local board may provide for; (1) the conduct of a pool; (2) the compensation of persons who sustain losses under specified conditions; (3) the provision of facilities for processing or otherwise conditioning the regulated product, and (4) assistance in the conduct of research work. The local board, in the conduct of its operations, may co-operate with any board or agency established under the law of any province.

To enable it to enforce the authority which it exercises, the local board may require the registration or licensing of all persons engaged in the production or marketing of the regulated product. The term "regulated product", as defined by the Act, means a natural product to which a scheme approved under this Act relates.

*Constitutional Authority.*—Provision has been made that the Dominion Board may authorize any marketing board or agency established under the law of a province to be, and to exercise the functions of, a local board under the terms of the Natural Products Marketing Act and the Board may further exercise, or confer upon a local board established under the Act authority to exercise, any power conferred upon it by or pursuant to provincial legislation. Under such a provision a local board created either under the jurisdiction of a province or under the Natural Products Marketing Act may be given the authority to deal with both intra and inter-provincial marketing.

*Financing of Local Boards.*—Authority is granted by the Act for the collection and disbursement by a local board, as agent of the Dominion Board, of such funds as may be necessary for the conduct of its operations. A local board established under the law of any province may be granted the same authority. The monies necessary for the administration of a scheme may be raised by the imposition of charges or tolls against the regulated product.

*Special Powers to Market.*—Reference has already been made to the special powers given the Dominion Board to market or to regulate the marketing of a natural product. The limitation on this power is that there shall be no existing local board available for that particular product, and further that the Dominion Board shall be concerned only with interprovincial and/or export trade. Under such circumstances, and if the Minister is satisfied that the conditions of marketing are such as to warrant action, he may authorize the Dominion Board to act accordingly.

*Restriction of Imports and Exports.*—The provisions of the British Marketing Act of 1933 find their counterpart in Section 12 of the Canadian legislation which empowers the Governor in Council to regulate or restrict the importation into Canada of any natural product that enters Canada in competition with a regulated product. The Dominion Act, however, goes a step farther in this respect,—it also permits the Governor in Council to make orders or regulations to regulate or restrict the exportation from Canada of any natural product.

The provision with respect to exports, since it refers to "any natural product," is broader than that applied to import trade.

*Investigation and Spreads.*—There is a second part to the Act which is only indirectly related to the first part. It deals with "investigations" and "spreads." A spread, as briefly defined, is the charge made by any person for selling, storing, packing and conditioning a natural or regulated product. It also includes the difference between the price at which a natural product is purchased and the price at which it is sold, and in the case of a product that has been processed or converted into another form, it includes the difference between the price of the natural product and the sale price of the product resulting therefrom.

It is provided that the Minister may, at the request of the Board or upon his own initiative, authorize an investigation into the cost of production, wages, prices, spread, trade practices, and other matters relating to the production and marketing of a natural or regulated product, or any product derived therefrom.

If, as a result of an investigation which, it is inferred, may be conducted by officers of the Government, the Minister believes that a further inquiry is necessary he may appoint a committee representative of producers, persons engaged in the marketing, and consumers, to conduct such an inquiry. A committee so appointed shall have the powers of a commissioner appointed under the Inquiries Act and may investigate all operations occurring in connection with or in the course of marketing, adaptation for sale, processing, or conversion of a natural or regulated product for the purpose of ascertaining the spread that is received by any persons in the course of such operations. The committee may after investigation report whether in its opinion the spread received is detrimental to or against the interests of the public

*—Continued at bottom of page 32*

# MILK CONSUMPTION IN MINNEAPOLIS

The results of a survey of milk consumption in Minneapolis conducted in 1934 were reported in "Minnesota Farm Business Notes," May 20, 1934. This report was prepared by W. C. Waite and R. W. Cox.

Data on milk consumption were obtained from 2,187 Minneapolis families who were located in 230 widely scattered areas and represented a good cross section of the city. Per capita milk consumption was found to be 0.85 pint per day. Studies in other cities indicated that per capita consumption was 0.77 pint in Philadelphia (1929), 0.72 pint in Newark (1920), and 0.85 pint in Boston (1930). The figure for Minneapolis is significant considering that studies in other cities were made in more prosperous times.

A greater proportion of milk was used for liquid consumption as the rate per capita increased; for example, in families consuming at rates between 0.4 and 0.8 pint per day per person, 52% of the milk was used for drinking, while in the families consuming at rates between 1.2 and 1.6 pints, 64% was used for liquid consumption.

Income did not appear to have as great an influence on milk consumption as it does on the other dairy products. Nearly all families, regardless of income levels, reported the purchase of fluid milk Moreover, per capita consumption did not vary greatly except in the lowest income classification when it was 0.77 pint per capita as compared with 1.00 pint per capita in the group showing the highest rate of consumption. The slight decline in the highest income group probably was due to the greater consumption of cream in that group (Table 1).

The differences in consumption which appear in Table 1 may be explained by the fact that in the lower income group fewer adults were drinking milk than in the high income classification. This tendency was even more marked in the group of relief families. A probable source of an increase in milk consumption therefore lies in persuading adults, particularly in the low income groups to drink milk. An increase in the income of the lowest group may be expected to slightly increase milk consumption by the children, and would probably materially increase the consumption by adults.

TABLE 1.—PER CAPITA CONSUMPTION OF MILK AT VARIOUS INCOME LEVELS, MINNEAPOLIS, 1934

| Per capita income | Per capita consumption pints per day |
|---|---|
| Under $300 | 0.77 |
| $300–$599 | 0.93 |
| $600–$899 | 1.00 |
| $900 and above | 0.97 |
| Relief families | 0.69 |
| All families | 0.85 |

Presence of children in the family is naturally an important factor in milk consumption. For example, in families with two adults and no children per capita consumption averaged 0.95 pint per day, while in families of two adults and two children per capita consumption averaged 1.04 pints per day.

In all income levels, more was spent for fluid milk than any other dairy product. Over 50% of the expenditure on dairy products in the low income group was used for the purchase of fluid milk. This declined to 36.5% in the highest income group. In terms of butterfat, however, fluid milk is not so important, accounting for 26.7% of the intake in the low income group and 20.4% in the high income group. On all income levels, butter was over twice as large a source of butterfat.

As per capita income increased, expenditures on dairy products increased, but at a less rapid rate than other food costs and the proportion of the dollar expended for food which was spent on dairy products declined. There was a decrease from an expenditure of about 30% of the total food costs in the lowest income group to 22% in the highest income group.

# ASSESSMENT OF FARM PROPERTY IN ONTARIO

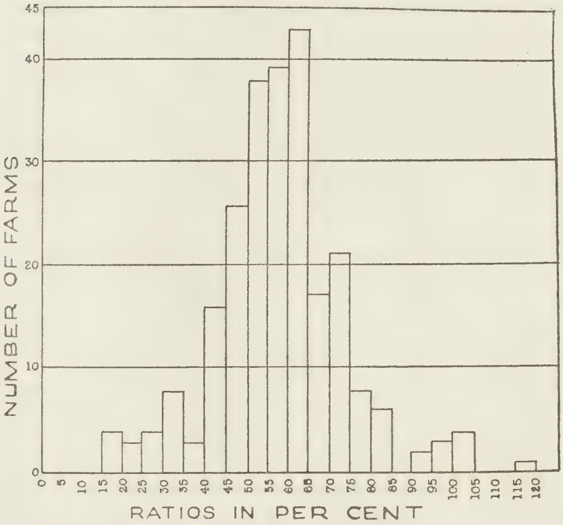
S. C. Hudson[1]

The general property tax, under which the tax on farm property is administered, is essentially a tax on ownership or possession, the total taxes to be raised being allocated on the basis of the value of the property possessed by the individual tax payer. The major responsibility for an equitable distribution of the burden of taxation under this system rests, therefore, with the assessor who evaluates the holdings of the tax payers.

## METHOD OF ASSESSMENT

Assessments in Ontario are on the township basis. Each township, incorporated village, town, and city appoints its own assessor, making a total for the province of about 900 assessors, not including deputies. No special qualifications are prescribed for the office of assessor, applications in rural areas usually being received in the form of tenders. Unless otherwise provided by by-law, each assessor is required to begin to make his roll, each year, not later than February 15th and must have it completed, affirmed, and in the hands of the clerk of the municipality by April 30th, at whose office it is to be available for inspection by all persons interested. Appeals against an assessment may be made before a Court of Revision consisting of members of the municipal council, notice of such appeal to be given within fourteen days after the return of the assessment roll.

Figure 1. Histogram of the ratios of assessed to estimated values of 246 Ontario farms



As provided by statute, land must be assessed at its actual value, the value of buildings thereon being ascertained separately as that amount by which the value of the land is increased due to the presence of the buildings; the total assessment being the sum of the assessed value of land plus the assessed value of buildings.

## EQUALIZATION

Due to the fact that assessment is made by townships, usually with different assessors for each township, the statutes of the province provide that the real property within each county must be valued at least once in five years by an equalization board consisting of two or more members appointed by the county council. It is also provided that the time for which a valuation shall remain in force may be extended by the county council for a period not exceeding five years. Valuation is made by appraising from 5 to 8% of the different parcels of land in different parts of each municipality and comparing with the valuation of the same properties in the last revised assessment roll of the several municipalities within the county. If the valuation of the county valuators and that of the municipal assessors correspond closely in aggregate, the municipal assessment roll may stand as correct for county purposes. Should there be a material difference between the two, the county valuators are required to make an adjustment by adding or deducting a corresponding percentage to or from the local assessment.

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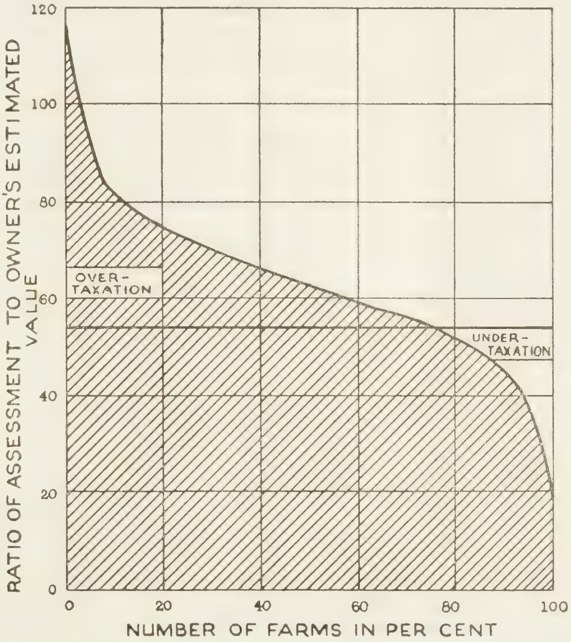
### THE ACCURACY OF FARM ASSESSMENT

Since an equitable distribution of the burden of farm taxation is dependent, in so far as the individual taxpayer is concerned, on the degree of accuracy by which the various parcels of real estate are assessed, an attempt has been made to study the accuracy of farm assessment in a number of rural municipalities in Ontario.

A number of measures have been evolved for this purpose, the principal one relating to the ratio of assessed to real value of individual parcels of real estate. The greatest difficulty to be encountered in the employment of such a measure is in obtaining a measure of "real value" which is readily acceptable.

FIGURE 2. DISTRIBUTION OF 246 ONTARIO FARMS ACCORDING TO THE RATE OF ASSESSMENT



The horizontal line represents the average rate of assessment (53.9%). The shaded portion above this line marked "over-taxation" indicates the extent to which certain properties are over-assessed and therefore over-taxed relative to the average of all properties. Similarly the space labeled "under-taxation" shows the extent to which certain properties are under-assessed. Since a larger number of farms are over-assessed than are under-assessed there appears to be a tendency to over-assess low valued farms.

Probably the most common measure of real value in studies of assessment is sale value. While there are many points on which the use of sale value in this connection may be recommended, it has certain limitations, chief among which are the effect of forced sales, differences in bargaining power, and ability of the buyer to appraise a farm.

In this study the farm valuation as estimated by the farm operator was taken as the basic measurement of value with which to compare the assessed valuation. While the accuracy of this base depends upon the accuracy of the farmer's estimate and may be open to some criticism, an intelligent farm operator, on account of his intimate contact with his farm and his knowledge of its powers of production, should be in good position to appraise it. The operator's valuation, moreover, in this instance is checked by an experienced farm management investigator. Such an appraisal would be on the basis of productivity which in the final analysis determines the ability to pay. In this connection it must be remembered that irrespective of the fact that property taxes are levied against property and not income, they must ultimately be paid, if at all, from income.

*Procedure.*—The assessed valuations of some 246 farms in nine townships of Ontario for which farm management records were available were obtained from the respective township clerks, and the ratio of the assessed valuation to the value as estimated by the farm operator calculated for each farm.

*Analysis of Results.*—A frequency distribution of these farms by townships according to their ratios of assessed to estimated value is shown in Table 1. A comparison of the average ratios of the several townships indicates considerable variation in the assessment practices of different assessors, the average ratio of assessed to estimated value varying from about 22 to over 70%. It is for the correction of these variations in assessment practices that county equalization is intended.

TABLE 1.—FREQUENCY DISTRIBUTION OF SOME ONTARIO FARMS ON THE BASIS OF THE RATIO OF ASSESSED TO ESTIMATED VALUATION

| Class interval (per cent) | Twp. No. 1 | Twp. No. 2 | Twp. No. 3 | Twp. No. 4 | Twp. No. 5 | Twp. No. 6 | Twp. No. 7 | Twp. No. 8 | Twp. No. 9 | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 15.0 – 19.9 | 1 | — | — | — | — | — | 3 | — | — | 4 |
| 20.0 – 24.9 | — | 1 | — | — | — | 2 | — | — | — | 3 |
| 25.0 – 29.9 | 1 | — | — | — | — | 1 | 2 | — | — | 4 |
| 30.0 – 34.9 | 1 | 1 | 1 | — | — | 1 | 4 | — | — | 8 |
| 35.0 – 39.9 | 2 | — | — | — | — | — | 1 | — | — | 3 |
| 40.0 – 44.9 | 10 | 2 | 2 | 1 | — | 1 | — | — | — | 16 |
| 45.0 – 49.9 | 13 | 8 | 4 | — | — | 1 | — | — | — | 26 |
| 50.0 – 54.9 | 22 | 6 | 6 | — | — | 2 | — | 2 | — | 38 |
| 55.0 – 59.9 | 19 | 12 | 3 | 3 | — | — | — | 1 | 1 | 39 |
| 60.0 – 64.9 | 14 | 14 | 2 | 2 | 5 | 2 | — | 1 | 3 | 43 |
| 65.0 – 69.9 | 4 | 8 | — | — | — | 1 | — | 2 | 2 | 17 |
| 70.0 – 74.9 | 2 | 7 | 1 | 5 | 1 | — | — | 2 | 2 | 20 |
| 75.0 – 79.9 | 1 | 1 | — | 2 | 3 | — | — | 2 | — | 9 |
| 80.0 – 84.9 | 1 | 3 | — | — | 1 | — | — | — | 1 | 6 |
| 85.0 – 89.9 | — | — | — | — | — | — | — | — | — | 0 |
| 90.0 – 94.9 | — | 1 | — | — | — | — | — | — | 1 | 2 |
| 95.0 – 99.9 | 2 | — | — | — | 1 | — | — | — | — | 3 |
| 100.0 –104.9 | 2 | — | — | 1 | 1 | — | — | — | — | 4 |
| 105.0 –109.9 | — | — | — | — | — | — | — | — | — | 0 |
| 110.0 –114.9 | — | — | — | — | — | — | — | — | — | 0 |
| 115.0 –119.9 | — | — | — | — | — | — | 1 | — | — | 1 |
| No. of farms | 95 | 64 | 19 | 14 | 12 | 11 | 11 | 10 | 10 | 246 |
| Average ratio | 52.7 | 57.6 | 50.2 | 65.7 | 72.3 | 43.7 | 21.9 | 63.9 | 68.0 | 53.9 |

On studying the distribution of farms within each township according to the assessment ratio great inaccuracy in the assessment of individual farms, as measured on the basis of estimated value, is noted. The totals for all townships show a range in assessment of from about 15 to over 115%. This is shown graphically in Figure 1. However, since items tend to accumulate about the mean, extremes should be compared with the mean rather than with extremes. A more accurate measure of the variation, therefore, is given by the standard deviation[2], a statistical measure which indicates the scattering of items about their mean. Other things being equal, the smaller the standard deviation, the more closely do the various items cluster about the mean. The standard deviation for all farms was 46.25 indicating great inaccuracy in assessment resulting in over-taxation of some farms and under-taxation of others as compared with the average. This is illustrated graphically in Figure 2. The horizontal line represents the average ratio of the assessed to the estimated actual value of the farms studied which was 53.9%. If all farms were assessed at the average percentage of the actual value, the assessment situation would be represented by this horizontal line. The curved line indicates how widely the actual situation varies from this ideal. The fact that the line is more nearly horizontal in the middle portion of the chart indicates that more of the properties are assessed at the percentage shown in the middle of the vertical scale than are assessed at the extremely low and high percentages. It should be noted that the space marked "under-taxation" below the horizontal line is much smaller in area than that space above the line marked "over-taxation". This indicates that a greater number of farms are over-assessed than are under-assessed, which is explained by the tendency on the part of assessors to over-assess low-valued farms.

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[2] The standard deviation is calculated by finding the difference between each item and the mean, squaring these, totalling, dividing by the number of items, and extracting the square root of the result.

The tendency towards over-assessment of low-valued farms is further indicated in Table 2, in which the farms are grouped according to their estimated value by $10,000 intervals for the purpose of determining the relationship between value and assessment. While farms valued under $10,000 were assessed, on the average, at 61.37% of their estimated value, those valued at from $10,000 up to $20,000 had an average ratio of assessed to estimated value of 54.16%, and those valued at $20,000 and over were assessed at 39.39% of their estimated value. Variation of assessment between individual farms within the groups is greater for the first group than for the second as is indicated by the larger standard deviation and coefficient of variation[3] in the first group. The increase in both measures in the last group is attributable to the small sample. Lower valued farms then, are not only over-assessed as compared with those of higher value but in addition to this their assessment is less accurate.

TABLE 2.—RELATION OF VALUE OF FARM TO ACCURACY OF ASSESSMENT

| Value of farm (dollars) | No. of farms | Average ratio of assessed to estimated value | Standard deviation | Coefficient of variation |
|---|---|---|---|---|
| 0 - 9,999 | 113 | 61.37 | 40.302 | 65.834 |
| 10,000 - 19,999 | 114 | 54.16 | 28.655 | 53.015 |
| 20,000 and over | 19 | 39.39 | 32.130 | 81.573 |
| All farms | 246 | 53.89 | 46.25 | 86.16 |

While it is evident from the foregoing analysis that an individual farm may be assessed anywhere from a fraction of its actual value up to its full value, there is a marked tendency to discriminate against the lower-valued farms by over-assessing them in relation to high-valued farms. It is important, therefore, to study some of

TABLE 3.—RELATION BETWEEN SIZE OF FARM AND ACCURACY OF ASSESSMENT

| Size of farm (acres) | No. of farms | Average ratio of assessed to estimated value | Standard deviation | Coefficient of variation |
|---|---|---|---|---|
| Under 100 | 87 | 50.02 | 31.85 | 63.67 |
| 100 - 200 | 135 | 55.92 | 33.50 | 59.91 |
| 200 and over | 24 | 53.23 | 32.10 | 60.29 |
| All farms | 246 | 53.89 | 46.35 | 86.01 |

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[3] Whereas the standard deviation measures absolute variation, the coefficient of variation, which is the standard deviation expressed as a percentage of the mean ($c/v = \frac{S.D.}{M} \times 100$), measures the relative variation of different series.

the factors affecting value of property and to determine the extent to which these factors are considered by the assessor.

*Size of Farm.*—In an attempt to determine the influence of the number of acres in the farm on the assessment, the farms were grouped according to size and the average ratio of assessed to estimated value calculated for each group (Table 3). Since the assessment ratio is essentially the same for all three groups, there is no apparent tendency on the part of the assessor towards giving undue weight to the number of acres in the farm in making an assessment as compared with that of the owner.

*Value per Acre.*—In order to measure the extent to which assessors are influenced by value per acre, the farms were divided into four groups on this basis, the average ratio of assessed to estimated value being determined for each group. The results, which are presented in Table 4, indicate that farms having a low "per acre" value are over-assessed as compared with those having a high "per acre" value. That is, the assessor apparently does not give sufficient consideration to the "quality" aspect of a farm in making his assessment, with the result that the more productive farm is often assessed at a lower rate than one the productivity of which is relatively low.

*Buildings and Improvements.*—The average ratios of assessed to estimated value of farms in the groups in which a relatively small proportion of the total value is in buildings are distinctly smaller than in the groups where buildings make up a large proportion of the farm value (Table 5). It would seem then, that in valuing a farm the assessor gives undue weight to buildings with the result that a poor farm which is well equipped in this respect may be assessed much higher than a more productive farm having less pretentious buildings.

TABLE 4.—RELATION BETWEEN THE "PER ACRE" VALUE OF REAL ESTATE AND ACCURACY OF ASSESSMENT

| Estimated value of real estate per acre (dollars) | No. of farms | Average ratio of assessed to estimated value | Standard deviation | Coefficient of variation |
|---|---|---|---|---|
| Under 75 | 53 | 67.79 | 37.70 | 55.61 |
| 75 – 100 | 83 | 58.73 | 22.58 | 38.45 |
| 100 – 125 | 85 | 50.86 | 32.02 | 62.95 |
| 125 and over | 27 | 33.82 | 20.72 | 61.28 |
| All farms | 246 | 53.89 | 46.35 | 86.01 |

## SUMMARY

The preceding analysis of assessment has indicated that notwithstanding the fact that the law provides that "land shall be assessed at its actual value", the common practice of assessors is to assess property on a percentage basis. In this connection the provision of an equalization board may in itself be considered an admission that assessment is not made on the basis of actual value. It has been demonstrated also that two parcels of farm real estate in the same general locality on which the respective farm operators have placed the same value may be assessed at valuations which differ widely. These differences resulting from inaccuracy of assessment, while significant for all properties, are greater in the lower value groups. A marked tendency to over-assess low-valued properties on the basis of their estimated valuations as compared with high-valued properties is also apparent. This was found to be due, in part at least, to the inability of assessors to give sufficient consideration to the "quality" aspect or "per acre" value of a farm together with the tendency to give undue weight to the value of buildings in assessing a farm.

TABLE 5.—RELATION BETWEEN THE PROPORTION WHICH VALUE OF BUILDINGS IS OF VALUE OF REAL ESTATE AND ACCURACY OF ASSESSMENT

| Value of buildings expressed as a percentage of value of real estate | No. of farms | Average ratio of assessed to estimated value | Standard deviation | Coefficient of variation |
|---|---|---|---|---|
| Under 30 | 12 | 34.1 | 26.68 | 78.22 |
| 30 - 40 | 29 | 52.6 | 19.95 | 37.93 |
| 40 - 50 | 41 | 55.5 | 22.52 | 40.57 |
| 50 - 60 | 70 | 53.0 | 31.70 | 59.81 |
| 60 - 70 | 54 | 58.2 | 23.55 | 40.46 |
| 70 - 80 | 20 | 60.1 | 20.35 | 33.86 |
| 80 and over | 20 | 65.1 | 21.75 | 33.41 |
| Totals | 246 | 53.9 | 46.25 | 86.16 |

It should be mentioned that it is not intended that the assessors should be held personally responsible for the inaccurate assessment of farm property but it is felt rather that this is due more to inherent weaknesses of the assessment system which must necessarily be corrected before an adequate appraisal of the present system of property taxation can be made.

A review of the work of the European Commercial Representative of the Fruit Growers' Association of Ontario during the past five seasons, 1929 to 1934 indicates that a very satisfactory development of overseas markets for Ontario fruit has taken place. Andrew Fulton, who is in charge of the London agency for the above organization states in his report that apple exports from Ontario rose from an average of 70,000 barrels for 1920-29 to 375,000 barrels in the 1933 season. Sales have increased from $70,000 in 1929-30 to $1,235,000 in 1933-34. Large savings to shippers have been made in selling charges, amounting to $35 to $70 per car load and totalling $110,000 per annum. This has been accomplished largely through the policy of the Ontario Fruit Growers' Association in assisting growers to standardize their product and by establishing packing houses and cold storage plants. The London representative has done much to develop marketing by pointing out weaknesses in the product and establishing contacts with the trade for standard brands.

Farm economic research in Saskatchewan has been in progress since 1925 under the direction of Dr. Wm. Allen of the University of Saskatchewan. Since 1930, studies of individual farm businesses have provided considerable information on farm indebtedness. From 1930 to 1933 inclusive, records were obtained from 1,323 farms situated in representative districts of Saskatchewan. In 1930, in the northwest park belt, the farming district around Turtleford was studied, and on the heavy land of the west-central portion of the prairie plains, the district of Kindersley was selected. Indebtedness per acre of crop land for these two areas was found to be $11.32 and $10.59 respectively. Similar figures for districts studied in 1931 were as follows: Davidson $10.68, Maple Creek $3.66, and Richmond $3.53. For 1932 the figures were Rosemount, Redford $14.42, Scott $24.29, Wellington $13.92 and Brokenshell $7.07. The 1933 study revealed that indebtedness per crop acre was $19.12 in the Grenfell and Wolseley districts, $17.91 at Balcarres and Indian Head, and $16.36 in the Neudorf and Lemberg districts. The difficulties of the recent years have prevented farmers meeting their obligations and despite reduced costs of operation and curtailed living expenses indebtedness has generally increased.

# THE WHEAT SITUATION IN FRANCE

According to an Associated Press report (dated May 25) France has left the ranks of wheat importing countries to join those of exporters. Prior to 1929, France did not produce sufficient wheat to meet her domestic requirements, except in years when exceptionally large crops were harvested. Large crops were grown in 1929, 1932 and again in 1933, so that a surplus of wheat has been built up. Commencing in 1929, several forms of control measures were adopted by the Government in order to protect French farmers.

In pre-war years France produced very large crops. The 1890 crop amounted to 330 million bushels or equivalent to the production of 1932.[1] In the five-year period from 1909 to 1913, production averaged 317 million bushels per annum. From 1928 to 1932, it was 290 million bushels or about 27 million bushels under the pre-war average. France has not reached her pre-war average acreage of wheat which amounted to 16.5 million acres. In 1933 acreage was 13,358,000 and it has not changed materially since 1920.

Domestic requirements of wheat in France average 325 million bushels per annum. Prior to 1929, an amount averaging 50 million bushels had to be imported each year.

Beginning in 1929, France has imposed several regulations to control the domestic wheat market. In May, 1929, the duty on wheat was increased from 37 to 53 cents a bushel and further raised to 85 cents in June, 1930. The general tariff now stands at $1.70 per bushel applicable to countries with which commercial treaties have not been made. It has since been further increased.

A domestic milling quota was established in December, 1929, to provide for the use of 97% of the domestic wheat in French mills. Since then, the extraction ratio has been lowered to 66%. Authorities considered that a low extraction ratio would increase wheat consumption. It is stated that bakers for a time utilized low grade flour which they were not supposed to buy, so that in January, 1934,[2] further regulations were imposed on flour extraction. Millers are now forbidden to sell such flour for home consumption and bakers are forbidden to hold it in store. It is also illegal to buy, sell, offer or utilize flour for bread-making at a price not corresponding to a price to be determined for each province.

A subsidized storage decree, based on a law of April, 1930, was issued in October, 1932.[3] The October decree widened the powers of the original law, providing for the withdrawal of 22 million bushels from the market in 1932, this to be carried into the next season. The principle of the wheat subsidized storage scheme is that producers, by holding part of the current crop, will receive the so-called "conservation or carry-over premium" at the expiration of the storage contract for the wheat held off the market. The government advances 80% of the values of the wheat stored to the farmers and supplies long-term credits at 2% to cover two-thirds of the cost of storage facilities. In 1930-31, about 1.5 million bushels were stored, in 1931-32, about 3.67 million bushels and in 1932-33, it was anticipated that 7 to 18 million bushels would be handled in this way.

In July, 1933, the government inaugurated a price fixing schedule, fixing the price of wheat at $2.05 a bushel (U.S. exchange). This price was advanced to 2.7 cents per month. On the whole it has been a nominal market price. The minimum price was evaded by many millers and those who did adhere to it lost money because they could not compete with the more cheaply produced flour. The provisions mentioned above should prevent the occurrence of this in the future. An amendment to this measure was passed in December, 1933, extending the minimum prices to any surplus resulting from the 1933 crop. This was done to prevent distress sales and to permit farmers to hold their crop until after the end of the season. Another provision of the amendment prohibits the growing of a grain crop after grain in any crop rotation. This will likely limit acreage somewhat.

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[1] Monthly Review of the Wheat Situation, Dominion Bureau of Statistics, January 24, 1933.

[2] Foreign Crops and Markets, Vol. 28. No. 10.

[3] Foreign Crops and Markets, Vol. 25. No. 21.

A sales tax of 3 francs per quintal on all wheat sold has been instituted to help raise revenue for market support. The farmer also pays a commission to the local grain merchant, the total official deduction, including the tax, amounting to about 9 cents per bushel.

In 1933, France attempted to remove 18 million bushels of wheat from the domestic market by granting an export bonus of about $1.43 per bushel. Only 1.8 million bushels were removed as the bounty was found to be insufficient to make French wheat cheap enough for competition on the world market. In December, 1933, the French Government ceased to issue export licences.[4]

## ECONOMIC LITERATURE

Coats, R. H., Marshall, H., and Greenway, H. F. Wholesale Price Index Numbers of Canadian Farm Products. Internal Trade Branch, Dominion Bureau of Statistics, Ottawa, mimeo. 15 pp.

This monograph provides a record of monthly and annual movements in wholesale prices of Canadian farm products from 1890 to 1933. No such data have been available previously for years prior to 1913, while annual indexes only were available for the years 1913 to 1918 inclusive. The authors include brief notes on the growth of agricultural production, the economic history of the period and the problems of index number construction in addition to the outline of price movements.

Canadian indexes bear out the widely accepted premise that farm products prices react more quickly to broad influences than do those of commodities in general. From the beginning of the war until 1920, the farm products index was steadily above the index of all commodities, and subsequently its decline was more precipitate. From 1929 to 1932, when practically all prices were falling, prices of farm products dropped much more rapidly than the average of all commodities, and this has given rise to an unusually serious dislocation in purchasing power between the agricultural community and other economic groups.

Field crops exert a dominant influence upon the movement of price indexes of Canada farm products. On numerous occasions field products prices have soared, but these movements as a rule have been of only a few months' duration. The wide fluctuations prevalent in the field product group are attributable chiefly to the occasional precipitous fluctuations of grain and potato prices. Changes of 20% to 30% within one year for these items have been common.

The stability of yearly average price index numbers for animal products shows up in contrast to the wide swings of field product indexes. Such averages had, however, regular and pronounced seasonal movements of considerable magnitude. Milk prices have exerted a considerable influence in the animal products group.

Per capita consumption of beef according to the Agricultural Branch, Dominion Bureau of Statistics, was 65.77 pounds in 1930 and declined in 1931 to 57.92. A further reduction to 56.02 pounds took place in 1932 whereas in 1933 there was a very slight increase to 56.09.

Consumption of pork was 72.92 pounds in 1930 and increased to 85.61 in 1932 during the past year, however, there was a marked reduction to 74.58 pounds.

Consumption of butter has remained almost constant, being reported as 30.59 pounds in 1930; 30.76 in 1931; 30.49 in 1932; and 30.04 in 1933.

The consumption of eggs has declined from 24.92 dozens in 1930 to 21.45 dozens in 1933.

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[4] Foreign Crops and Markets, Vol. 28. No. 10.

## NOTES

According to the New Zealand Journal of Agriculture, April 20, 1934, the total value of farm production in New Zealand was £52,500,000 in 1932-33, as compared with £50,400,000 in 1931-32 and £83,400,000 in 1928-29. Agricultural production (crops) totalled £8,900,000 in 1932-33, an increase of 11% over the previous crop year. The value of pastoral production was £20,400,000, an increase of 5.7% over the exceptionally low figure recorded in 1931-32. The value of dairy production remained practically the same.

Crop yields, particularly wheat and oats were higher in 1932-33 than in 1931-32. Wool production increased while production and exports of beef, lamb and pork were in excess of the totals for the preceding year. The volume of butter and cheese production increased but the fall in prices counteracted a rise in the total value of these products.

The Crop Reporting Board of the United States Department of Agriculture issues a monthly bulletin on prices received by farmers at local markets. For May 15, 1934 the price per bushel for the following crops was: oats 32.7 cents, barley 42.2, wheat 69.5, rye 51.9, flaxseed 163.7, potatoes 73.7, and apples 113.7 cents. The price received per ton for hay was $8.94 Live stock prices per 100 pounds were as follows: hogs $3.17, beef cattle $4.13, veal calves $4.83, lambs $6.95 and sheep $3.54. Eggs brought 13.3 cents per dozen, butter 21.6 cents per pound and butterfat 21.5 cents per pound. Farmers received $1.45 per hundredweight for whole milk (wholesale), and 9.1 cents per quart for whole milk (retail).

The sixth annual meeting of the Canadian Society of Agricultural Economics was held at Macdonald College, Ste. Anne de Bellevue, June 25–27. The program included the following papers: Some Farm Tax Problems in Ontario; The Preparation of Outlook Material; The Use of Outlook Material in Planning a Farm Program; Farm Management Research; The Peoples' Banks in Quebec; The Census of Agriculture; The Bankground of Present Legislation to Regulate Marketing: The Natural Products Marketing Act; Marketing of Australian Agricultural Products through federal and State Boards; An Appraisal of the Program Initiated under the Agricultural Adjustment Act in the United States; and Possibilities for Export of Canadian Agricultural Products.

Two co-operative wholesale purchasing societies established within the last five years in Manitoba and Saskatchewan have grown into business operators of considerable size. These wholesale companies handle bulk commodities such as gasoline, lubricating oils, binder twine, coal, lumber, fence wire and certain household supplies. The commodities are purchased in car lot quantities and distributed to member societies on a commission basis.

The Manitoba Co-operative Wholesale Limited served 53 local co-operative associations in 1933. Its business during the past year slightly exceeded a quarter of a million dollars. The Saskatchewan Co-operative Wholesale Society Limited was the purchasing agent for 36 local co-operative organizations. Its volume of business in 1933 was just over $300,000. Both companies ended a successful year with a surplus and turned back nearly $3,000 in patronage dividends to their shareholder members.

*Continued from page 22—*

in that it is excessive or results in undue enhancement of prices or otherwise restrains or injures trade or commerce in the natural or regulated product.

Any person who charges, receives, or attempts to receive any spread which is excessive shall be guilty of an indictable offence and liable to a fine or imprisonment. Consideration of the language used indicates that it is not the intention of Parliament that a committee appointed under the Act shall unnecessarily scrutinize trade and commerce or interfere with recognized margins and reasonable profits. It is the intention, however, to prevent unreasonable spreads and excessive profits. In this respect both producer and consumer are offered a measure of protection.

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# The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. IV, No. 3 — Published by Authority of the Hon. Robert Weir
Minister of Agriculture — September, 1934

## THE ECONOMIC SITUATION

### PREPARED IN THE AGRICULTURAL ECONOMICS BRANCH, DEPARTMENT OF AGRICULTURE, OTTAWA, FROM BASIC DATA COLLECTED BY THE DOMINION BUREAU OF STATISTICS

The index number of wholesale prices in Canada was fractionally lower in July as compared with June moving downward from 72.1 to 72.0. Vegetable products moved up from 67.4 in June to 68.5 in July. Non-metallic minerals advanced from 85.6 to 86.1 while other sub-indexes were lower, the index of animals and their products falling from 66.6 to 65.6. The general index was however 1.5 points above that for July, 1933. While data for the latest month are not available, wholesale prices in United States have been tending upward. The index for July, 1933 (Bureau of Labor Statistics) was 68.9 whereas in June, 1934, it was 74.6, the highest point reached in that period. In the United Kingdom the Board of Trade index for June, 1933, was 101.7 as compared with 103.6 in July of this year. There has been a slight tendency for this index to recede. The June index was however well above that for May. In France, wholesale prices have been falling steadily since last December. The index in June of this year was 363 as compared with 396 in the same month in 1933. During the same period wholesale prices in Germany have tended to rise. In Italy they have been moving downward slowly. Monetary policies would of course have to be taken into consideration. These indexes are given however to indicate the course of prices within the respective countries. The general tendency recently has been toward lower levels.

*Retail Prices*.—The Bureau of Statistics index number of retail prices, rents and costs of services rose from 78.2 in May to 78.4 in June, due apparently to advances in the prices of food, in which group the index rose from 67.6 to 68.4. Considering retail prices in several of the more important countries, it is interesting to note that in 1933 the Bureau of Labor Statistics index of prices of foods in the United States was 71.7 in July, 1933, whereas in July, 1934, it was 75.2. The tendency has definitely been upward. Indexes for corresponding dates in the United Kingdom were 118 and 122. In France in July, 1933, the wholesale index was 79.8, whereas in June, 1934, it was 77.5. The tendency has been downward since the first of the year. In Germany, the index of food prices has followed a slightly irregular course rising until December, 1933, and falling to 113.3 in May, 1934. There was however a sharp advance to 115.5 in June.

*Physical Volume Business.*—Indexes of production for the month of July have been added since this was written, however, taking the trend in the last 12 months into consideration, it will be observed that there has been a substantial increase in business activity. The index for June, 1934, was 95.8 against 82.2 in June, 1933. Similiarly industrial production was 95.2 as compared with 79.8 Mineral production has with the exception of July, 1933, been well above the monthly average for 1926. Manufacturing has been at a higher level as well but perhaps not quite as active as

## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.9 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1933 | | | | | | | | | |
| Jan. | 63.9 | 43.6 | 35.1 | 57.9 | 79.1 | 68.1 | 62.2 | 56.1 | 112.0 |
| Feb. | 63.6 | 43.0 | 36.0 | 54.7 | 78.4 | 67.0 | 60.0 | 76.5 | 127.6 |
| Mar. | 64.4 | 44.7 | 38.0 | 56.0 | 77.8 | 68.4 | 62.5 | 129.0 | 135.8 |
| April | 65.4 | 46.8 | 41.1 | 56.4 | 78.0 | 69.8 | 65.1 | 104.1 | 112.7 |
| May | 66.9 | 51.2 | 46.9 | 58.4 | 77.0 | 76.4 | 72.7 | 95.4 | 110.4 |
| June | 67.6 | 52.6 | 49.4 | 57.9 | 77.0 | 82.2 | 79.8 | 221.9 | 119.9 |
| July | 70.5 | 60.1 | 60.8 | 59.0 | 77.2 | 84.1 | 82.6 | 221.9 | 119.9 |
| Aug. | 69.4 | 57.0 | 54.9 | 60.5 | 78.6 | 89.8 | 89.5 | 197.2 | 114.2 |
| Sept. | 68.9 | 54.7 | 49.5 | 63.4 | 78.8 | 90.8 | 90.2 | 101.1 | 115.7 |
| Oct. | 67.9 | 51.4 | 44.6 | 62.8 | 77.9 | 88.2 | 87.4 | 70.5 | 112.7 |
| Nov. | 68.7 | 53.8 | 46.7 | 65.8 | 78.1 | 85.5 | 83.9 | 41.8 | 111.1 |
| Dec. | 69.0 | 53.3 | 45.3 | 66.6 | 78.4 | 86.2 | 85.1 | 30.7 | 107.6 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 101.2 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1931, p. 15.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1931, p. 33, and Monthly Mimeographs 1933 and 1934.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs 1933-1934.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical volume of business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

mineral output since the index was above the base period only in May of this year. It is interesting to note that tobacco releases have been consistently high during the past twelve months. Production of boots and shoes, output of news print, textiles, electric power production and imports of petroleum have been at high levels.

The index of iron and steel however has been relatively low although there has been rather distinct improvement since the beginning of the year. An important feature has been a fairly consistent improvement in car loadings. The Bureau of Statistics index of construction continues to reflect comparative inactivity in the industries affected, but contracts awarded in July were above those awarded in June. The cost of construction has receded very little during the past twelve months. These facts have already been drawn to the attention of readers of the Annalist.

The index of agricultural marketings has been comparatively low. A smaller movement of wheat and coarse grains is probably largely responsible for this fact. Relatively, marketings of live stock have been at higher levels than those of grain. The probability is that cattle marketings will be comparatively high this fall because of the shortage of feed in sections of the country. Cold storage stocks, which were low earlier in the year, have risen in the past few months.

The Bureau of Statistics reported that on August 1, stocks of creamery butter in cold storage warehouses and creameries were 21.3 per cent above those on August 1, 1933, and supplies of dairy butter were 21 per cent higher. Cheese in storage on the other hand was 3.1 per cent below that of a year ago. Cold storage eggs were 3.2 per cent under the figure for August 1, 1933, while fresh eggs were 30.5 per cent lower. Frozen eggs on the other hand had increased 24.2 per cent. Supplies of pork were 30.5 per cent above those on the same date last year. Beef in storage was 13.5 per cent higher while lard was 48.2 per cent below last year's figure. Veal in store was 28.4 per cent above that on hand a year ago while mutton and lamb was 10.6 per cent less. Supplies of poultry were 27.7 per cent higher.

*Agricultural Products.*—The index number of wholesale prices of Canadian farm products rose fractionally from 59.3 in June to 60.0 in July. The index of field products advanced from 55.5 to 57.8. Improvement in the prices of grains was largely responsible for this advance. The index of prices of live stock on the other hand fell from 65.6 to 63.7, largely due to comparatively heavy shipments and supplies of unfinished stock.

*Crop Conditions.*—Recent rains have aided crops in the Maritime Provinces. The Nova Scotia apple crop will be less than that of 1933. Crop conditions in Quebec are reported as generally satisfactory except in the western portion of the province in which drought has been pronounced. Harvest in Ontario is well advanced. Rains have fallen in the Prairie Provinces and have aided crops in the northern districts but the southern sections of Alberta, Saskatchewan, and Manitoba continue to suffer from lack of moisture. Harvesting operations in these provinces began toward the end of July and early in August in some sections, or about two weeks earlier than normal.

In general there has been substantial progress in recovery during the past twelve months. Wholesale prices have risen. Retail prices have advanced but not abnormally; sharp increases in the near future are indicated in certain lines of foods. In this connection, it should be borne in mind that while employment has been more general than it was a year ago, consumers' incomes have not materially advanced. Notwithstanding this, physical volume of business is much larger than a year ago. The index of Retail sales is above that of last year. There has, of course, been some advance in prices which would affect this index. Unsettled political conditions in Europe continue to retard the development of international trade but in spite of this there has been a marked improvement in Canadian exports during recent months.

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The Dairy Commission of the Province of Quebec has issued an Ordinance giving effect to the Convention agreed to between milk dealers in Montreal and suppliers of milk in that market fixing the price of milk at $1.45 net F.O.B. Montreal per 100 pounds, milk testing 3.5% butter-fat. A similar Ordinance has been issued fixing the price of milk in Quebec City at $1.35 F.O.B. Quebec per 100 pounds net, milk testing 3.5% of butter-fat. These Ordinances also prohibit price cutting by retail dealers.

# AN ECONOMIC ANALYSIS OF CREAMERY OPERATIONS IN NEW BRUNSWICK

C. V. Parker[1] and J. F. Booth[2]

The purpose of this article is to present a synopsis of the results obtained in a study of the business operations of eleven New Brunswick creameries.[3] The data contained in this article were collected in 1933 and apply to the 1932 operations of the creameries.

The production of creamery butter in New Brunswick has increased materially in recent years while the output of cheese has declined. Relatively better prices for butter and increased production of live stock requiring the use of skim milk are responsible in the main for the diversion of milk from cheese factories to creameries. The output of creamery butter in 1932 reached 2,759,519 pounds compared with 1,416,355 pounds in 1926. The production of dairy butter in 1932 was 7,456,000 pounds which, when added to creamery output, made a total of 10,215,519. Domestic consumption of butter, however, is still in excess of supply; there is therefore an opportunity for expansion of the dairy industry. The extent of the expansion will depend largely upon the degree to which dairy farmers increase their home-grown feeds or can buy mill feeds at a sufficiently low price to ensure satisfactory profits on sales of butterfat.

From the creamery operator's point of view the chief difficulty in factory operation is in obtaining sufficient quantities of cream for economical operation. There are at present 21 creameries doing business in the province and many of these creameries have a comparatively small output. This difficulty arises from the fact that the agricultural areas are scattered, small and sparsely settled. Patrons in many instances live a considerable distance from the creameries, and in the majority of cases the patron's business is relatively small.

The Provincial Government for the past few years has been aiding creamery operators and patrons alike by contributing to the expenses of cream transportation. This has had the effect of placing on an equal footing all farmers who are within reach of an established creamery. The additional cream received from outlying districts helps to reduce the per unit cost of operations and, without the subsidy from the Government, many of the smaller plants would be forced to cease making butter.

The present study was undertaken for the purpose of obtaining information on the costs of operation in relation to volume of butter production and costs of transporting cream. Data on other factors such as financial and operating statements, prices received and so forth were also obtained and taken into account.

The eleven creameries studied made 1,997,516 pounds of butter in the 1932 operating season. Butter output per creamery ranged from 13,448 pounds to 903,600 while the average make was 181,592 pounds. The number of patrons averaged 392 per creamery and varied from 50 to 1,260.

*Cost of Manufacture.*—The following cost figures do not include the charges for transporting cream to the factory or freight on butter from the factory. Items making up total cost were taken from factory statements with the exception of interest and depreciation charges. Interest was charged on the present value of buildings and equipment at the rate of 5%. On buildings a 2% rate of depreciation was charged for brick and 5% for frame structures. Depreciation of equipment was calculated on the year's future use basis; present values and year's future use were obtained for each of the important items, and by dividing the number of years into the present value, a depreciation figure for the year in which the study was made was obtained.

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[2] Commissioner, Agricultural Economics Branch, Ottawa.

[3] In conducting the study the New Brunswick Department of Agriculture co-operated with the Dairy and Economics Branches of the Dominion Department of Agriculture.

TABLE 1.—COST OF MANUFACTURING A POUND OF BUTTER IN 11 NEW BRUNSWICK CREAMERIES, 1932

| Creamery | Pounds butter made | Manufacturing expense | Cost per pound butter |
|---|---|---|---|
| | | $ | cts. |
| A | 49,602 | 2,877.49 | 5.80 |
| B | 114,275 | 5,607.41 | 4.91 |
| C | 124,975 | 5,522.58 | 4.42 |
| D | 224,405 | 22,311.95 | 9.94 |
| E | 320,062 | 16,012.30 | 5.00 |
| F | 29,296 | 3,406.54 | 11.63 |
| G | 62,208 | 2,369.26 | 3.81 |
| H | 13,448 | 1,340.23 | 9.97 |
| I | 95,576 | 2,927.17 | 3.03 |
| J | 903,600 | 25,891.63 | 2.86 |
| K | 59,069 | 2,231.15 | 3.78 |
| Total or average | 1,997,516 | 90,497.71 | 4.53 |

The cost of manufacturing a pound of butter for each of the creameries is presented in Table 1. The average cost per pound of butter was found to be 4.53 cents. This figure varied from 2.86 cents to 11.63 cents between individual creameries. While the largest creamery had the lowest unit cost and the two smallest plants had the highest costs the number of factories included in the study was not sufficient to overcome the effect of unusually efficient or inefficient creameries; therefore it was difficult to establish a relationship between volume and costs such as is ordinarily found in cases of this kind and as would undoubtedly be found in this instance if data had been available from a much larger number of factories.

In Table 2, the items of cost are segregated under the headings of Labour, Materials and Miscellaneous, and Overhead. Here we find that labour costs amount to 0.85 cent per pound in factory "J," which had the largest output, while for "H," the smallest plant, the cost is 5.30 cents per pound of butter. Labour charges for factory "D" seem to be considerably out of line with those of other large creameries.

Materials and miscellaneous items comprise approximately 33% of the total charges. Under this heading are included manufacturing and office supplies, fuel, ice, light and power, repairs and other items. The amount spent per creamery ranged from $265 to $12,474 for items in this category. On the average the cost of these items per pound of butter was 1.64 cents. Except for creameries "D" and "F" the charges per creamery for these items did not vary greatly from the average. No great difference should occur because the quantity and price of materials used per unit of product manufactured is approximately the same regardless of output.

The items included under overhead were taxes, insurance, interest and depreciation. These formed slightly over 27% of the total manufacturing costs. The average cost of these items per pound of butter was 1.24 cents. This figure varied from 0.54 cent to 3.56 cents for individual creameries, and tended to decrease as production increased.

*Cream Transportation Costs.*—Approximately two-thirds of the patrons associated with the eleven creameries had their cream hauled to the creamery by the truck-route method. There were 50 routes in operation in 1932. The number of miles travelled by trucks per route was high, averaging 100 miles per return trip and ranging from 15 to 252 miles for individual routes. The cost of operating a route for the season ranged from $21 to $2,037 and averaged $543 per route. The cost per pound butterfat varied from 0.79 cent to 4.78 cents and averaged 2.46 cents on all routes. Distance travelled per route and pounds of butterfat hauled per trip were the main factors influencing the cost of getting the cream to the factory.

TABLE 2.—LABOUR, OPERATING AND OVERHEAD COSTS IN 11 NEW BRUNSWICK CREAMERIES, 1932

| Creamery | Pounds butter made | Labour | Materials and miscellaneous | Overhead | Total making costs |
|---|---|---|---|---|---|
| | | Cents per pound butter | | | |
| A | 49,602 | 2.50 | 1.55 | 1.76 | 5.80 |
| B | 114,275 | 2.24 | 1.48 | 1.18 | 4.91 |
| C | 124,975 | 0.90 | 1.86 | 1.65 | 4.42 |
| D | 224,405 | 4.00 | 2.93 | 3.01 | 9.94 |
| E | 320,062 | 2.03 | 1.56 | 1.41 | 5.00 |
| F | 29,296 | 4.49 | 3.58 | 3.56 | 11.63 |
| G | 62,208 | 1.12 | 1.28 | 1.41 | 3.81 |
| H | 13,448 | 5.30 | 1.97 | 2.69 | 9.97 |
| I | 95,576 | 1.34 | 1.15 | 0.54 | 3.03 |
| J | 903,600 | 0.85 | 1.38 | 0.64 | 2.86 |
| K | 59,069 | 1.61 | 1.24 | 0.93 | 3.78 |
| Total or average | 1,997,516 | 1.65 | 1.64 | 1.24 | 4.53 |

One problem which has a tendency to increase cream transport costs is the overlapping of cream routes. In many places the trucks from two creameries cover almost the same territory while at several places trucks run on the same road as a result of competition for business. It is evident, however, that the patron is paying for this duplication of services and it would be greatly to his advantage if through organization some means could be devised to map out routes in a more efficient manner.

***Prices Received.***—The average price received for butter by the eleven creameries was 20.2 cents per pound in 1932. On a butterfat basis this figure was 24.4 cents. On the other hand patrons were paid 18.9 cents per pound for butterfat so that creamery men were working on a margin of 5.5 cents. Manufacturing expenses, transport costs on cream routes and freight on butter amounted to slightly over 7 cents per pound butterfat; therefore, the creameries as a whole were operating at a loss in so far as the manufacture of butter was concerned. Interest and depreciation charges were included as an expense.

***Business Analysis.***—An analysis of the balance sheets and operating statement of the 11 companies takes into account the total business conducted by these firms. Many of the factories make ice cream and some sell milk and cream.

The analysis of the balance sheets for the eleven companies indicated that the majority were in a fairly sound financial condition. While some creameries were carrying a greater amount of current liabilities than could be met by current assets, the current ratio for the eleven concerns as a whole was 1.17 to 1, indicating that the majority were favourably situated in this respect. A less favourable condition is indicated by the proportion of net worth to debt, which was 0.63 to 1 for all companies. This was due wholly to the unsound position of three of the companies. Only two companies carried a reserve for contingencies, but eight of the eleven had a surplus of assets over liabilities.

The analysis of the operating statement, however, indicated that the majority of companies operated at a loss in 1932. Seven of the eleven had a debit balance for net operating income. Six of the companies paid dividends but it is suggested that some of these did so at the expense of drawing on funds which should have been carried into reserve for depreciation purposes. In constructing the operating statements, depreciation charges were adjusted upwards in some cases where sufficient amounts were not being charged to the business. This explains why some companies paid dividends when they apparently had deficits.

# EFFORTS TO CONTROL MARKETING BY GOVERNMENT BOARDS OR ORGANIZATIONS ACTING WITH GOVERNMENT SUPPORT

## Part III[1]

J. Coke[2]

New Zealand has exercised control of the marketing of farm products for more than a decade. The Meat Export Control Act was passed in 1921 and was followed by the Dairy Produce Control Act in 1923, the Fruit and Honey Control Acts of 1924, and the Kauri Gum Export Control Act of 1925. The Wheat Purchase Board was authorized by Order in Council in 1933. There is a certain similarity in the functions of these boards although the wheat plan includes both domestic and export sales.

The Dairy Produce Control Board consists of 12 members, 9 of which represent dairy farmers, 2 represent the Government, and 1 represents manufacturers of dairy produce. Its finances are provided by a levy of 1/8d. per pound on all butter exported and 1/16d. per pound on all cheese exported. This board has power to exercise either limited or absolute control over marketing of dairy produce. For the greater part of the time, however, it has exercised limited control, that is, it has confined itself to licensing exporters; controlling and improving quality; arranging shipping, insurance, and storage contracts; auditing accounts; supplying market information; and advertising dairy produce under a national brand.

In 1926 intention to exercise absolute control was declared. The board then undertook to regulate distribution and to fix prices to the trade in Great Britain. This aroused opposition both in overseas trade and at home. Large stocks were accumulated in storage which had to be liquidated eventually at unsatisfactory prices. This policy was abandoned in 1927. There is still some support for such a policy in New Zealand because some felt that, had the board held out somewhat longer, better results would have accrued. The desirability of such a policy and other matters related to the overseas market for dairy products are now under investigation by a Royal Commission. A measure of co-operation has been effected with the Australian Dairy Produce Control Board.

The Fruit Export Control Board operates on a slightly different basis. A province may vote in favour of having its fruit marketed under control and if 70 per cent of those producing a stated minimum quantity for export are in favour, the fruit shall come under the Control Act. After a period of three years a vote may be taken and should a similar percentage be opposed, the products of the area will not be subject to control. Octago refused to export under the control regulations but in 1933 agreed to do so. The policy of the Board now is to sell through one wholesale firm in Great Britain.

### *The British Marketing Acts.*

An entirely different set-up for marketing is found in the type of co-operation which was provided for under the British Marketing Acts of 1931 and 1933. It should be said that this form of organization was, insofar as I am aware, developed in Queensland, Australia, and took its first form in Wheat Pool Act of 1920 which, in turn, was followed by the Primary Products Act of 1922. The essential feature is that where the majority of producers of a commodity desire to sell the product collectively the minority may be compelled by law to join in such sales policy.

The British Agricultural Marketing Act of 1931 provides for the submission of schemes for the regulation of the marketing of agricultural products to the Minister of Agriculture who will then publish notice of the receipt of the scheme and a period of six weeks will be set aside in which all objections must be filed with the Minister. If, on enquiry, the Minister is satisfied that the scheme will be advantageous to the producers of the commodity he may then submit it to parliament for approval. The Minister has power to modify the proposals but these modifications must be acceptable to the proponents of the scheme.

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[1] See The Economic Annalist, Vol. III, Nos. 7, 8, 9, pp. 76-78, and Nos. 10, 11, 12, pp. 92-95.

[2] Assistant Commissioner, Economics Branch, Department of Agriculture, Ottawa.

Each scheme is to be administered by a board. Every scheme requires a poll of registered producers affected. Not less than two-thirds of the producers, both in numbers and in volume of production, must vote in favor before the scheme can be adopted. A board constituted under the Act is given wide powers to engage in buying or selling, grading, packing, adapting for sale, and advertising farm products. Consumers committees may be set up to judge of the effects of any scheme on consumers. Two funds are established under the Act—a "Scotch fund" of £125,000 sterling and an "English fund" of £500,000. These funds may be loaned to any board administering a scheme. Both long-term and short-term loans are provided for. Renewals of loans are placed in the hands of agricultural marketing facilities committees. Renewals will not be granted on loans on which the interest has not been paid in full, in fact all renewals are carefully scrutinized.

The Act further provides for Agricultural Marketing Re-organization committees which shall be responsible for the preparation of schemes and review the operations of existing schemes and make recommendations to the Minister. Schemes for marketing hops, milk, pigs, bacon, and potatoes are already in operation and others for beet sugar, poultry, and fat stock are in various stages of development.

The Agricultural Marketing Act of 1933 provides, among other things, that where a board is administering two or more agricultural marketing schemes, one of which relates to a secondary product and one to a primary agricultural product from which the secondary product is wholly or partly manufactured (for example, pigs and bacon) it may submit schemes for the organization of the secondary industry which, under the Act, shall be known as a development scheme and which shall be administered by a development board. A development scheme for the organization of the secondary industry may require that no one shall produce the secondary product unless exempt or in receipt of a licence from the Board within the areas covered by the scheme. The Board may take over premises for the development of the secondary industry and dispose of them as it sees fit. Provision is made for the hearing of protests against such an action. The development boards are also empowered to make a levy on all marketing boards concerned in a development scheme.

This Act also empowers the Board of Trade to regulate imports and provides for setting up a Market Supplies Committee to review the conditions affecting supplies of agricultural produce in the United Kingdom and to advise the Secretaries of State for Scotland and Northern Ireland and the Ministry of Agriculture and Fisheries in regard to desirable policies.

Another amendment to the Act of 1931 is the provision whereby a board may regulate the amounts of a regulated product which any producer may sell. All producers must supply information deemed necessary for the purposes of the board. The Board of Trade is also empowered to obtain information as to stocks of agricultural products on hand.

This legislation has been criticized but obviously has the support of a large number. The Minister of Agriculture, speaking at Newton Abbott on March 10, 1933, said:—

"What the Marketing Bill says in a nutshell is this—we must organize the home market and the supplies to that market. If and when, however, the industry undertakes so to organize it must be guaranteed that it shall not be swamped out by an unorganized flood of produce landed on our shores in a succession of bankrupt sales. Furthermore, it says that the producer is not merely interested in growing his product but in what is done with it thereafter and that he and the manufacturer can full well come together to organize the secondary products . . . . "[3]

### *Public Utility Control.*

Public Utility Control has, until recently, been limited to such services as gas, electric light, water, communications and transport. Since 1932, however, milk prices in Winnipeg have been established by the Public Utilities Commission. The situation was brought about by the failure of representatives of dairy farmers and distributers to agree on prices and was aggravated by competition from chain stores and farmer distributers. The Board was reluctant to undertake this control and, in fact, at first refused to recognize it as coming within its jurisdiction. It was claimed, however, that the milk supply of Winnipeg was endangered and that the producers of fluid milk had equipped their farms for this especial purpose and had no other market; thus it was claimed that milk should be considered to be a public utility and that an emergency did exist.

As already mentioned chain store competition aggravated the situation. The question of chain store efficiency, policy and service relative to that of the regular distributer might have been a matter for consideration. This, however, was considered to be of less importance than the question of effecting a compromise with respect to prices. The prices of class A milk were established at $1.54 to the producer and retail milk, 10 cents per quart, relief milk off the wagon, 8 cents, milk sold to stores, 7½ cents, and bulk milk, 6¼ cents.[4] Prior to the establishment of these prices milk was selling at five to eight cents per quart and the producer was receiving less than $1 per hundred pounds.[5] Those critical of public utility control of milk prices claim that there is too much rigidity in the determination of prices and that the preponderance of consumers' interest may adversely affect prices from the farmers' point of view. Nevertheless this plan has spread to cities in Alberta and Saskatchewan.

Another method of establishing prices of milk is found in the setting up of special control boards for that purpose. Thus, in the State of New York, a Milk Control Board has been established for a period of two years with a view to "fixing the minimum price to be paid by milk dealers to producers and others, the maximum price to be paid by the consumer for milk used in fluid consumption, wheresoever produced." The minimum price to producers will, of course, apply to a locality. The Act also provides for price variation according to grades. Similar legislation has been passed in Pennsylvania and Ohio, and in Quebec and Ontario.

### *The Agricultural Adjustment Act.*

The Agricultural Adjustment Act has been in force in United States since early in May, 1933. It does not embody entirely new plans for it is claimed that it has been developed during post war years and is a result of several efforts "to improve the farm situation by legislative and non-legislative measures . . . ."[6] "Previous acts have failed because of inability to cope with the fundamental difficulties of controlling excessive supplies, removing inefficient marketing methods and improving general purchasing power. The Agricultural Adjustment Act goes directly to two of these basic difficulties—unbalanced production and expensive marketing."[7] The former is to be met through the allotment plan and benefit or rental payments, and the latter, through provision for marketing agreements between farmers and the handlers of their products which must be approved by the Secretary of Agriculture before becoming effective.

This Act declares it to be the policy of Congress "to establish and maintain such balance between production and consumption of agricultural commodities and such marketing conditions therefor as will re-establish prices to farmers at a level that will

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[3] Hon. Walter Elliot, "Agricultural Policy," Journal of the Ministry of Agriculture and Fisheries, Vol. XL, No. 1 (April, 1933), p. 18.

[4] Minutes of Proceedings and Evidence of Select Standing Committee on Agriculture and Colonization of the House of Commons (Canada), 1933 (Ottawa: King's Printer, 1933), p. 637.

[5] H. C. Grant, Some Notes on Public Utility Control of Milk in Manitoba, Canada (published in mimeograph form by the Department of Rural Economics and Sociology, University of Manitoba, Winnipeg), p. 4

[6] Ezekiel, M. and Bean, L. H. The Economic Bases for the Agricultural Adjustment Act, pp. 1 (7), Ibid. pp. 58.

[6] Ezekiel, M. and Bean, L. H. The Economic Bases for the Agricultural Adjustment Act, pp. 1.

[7] Ibid. pp. 58.

give agricultural products a purchasing power equivalent to that in the period August, 1909–July, 1914. In the case of tobacco the base period shall be the post war period, August, 1919–July, 1929." It was apparently recognized that such a policy would require some time in which to become effective. The interests of the consumers were protected by stating definitely the level of purchasing power to be attained and providing for readjusting farm production. It is worth noting that Title II of the Act provides for refinancing the Agricultural industry.

For the purposes of this article we need consider only the marketing agreements. These may in a large measure be regarded as the counterpart of the schemes set up under the British Marketing Acts but less comprehensive in scope. They apply to specified areas and products. Many of them set minimum prices to producers and limit wholesale and retail prices. Business is allotted between existing units and trade practices are prescribed as are the records to be kept and reports which shall be forwarded to the Secretary of Agriculture. Licences may be issued to dealers. It is hoped that high cost or inefficient marketing agencies may be eliminated. Thus we read: "Agencies entering into agreements with the Secretary of Agriculture may undertake to retire high cost inefficient services and to encourage the expansion of low cost services in the interest of greater volume of distribution relatively lower costs to consumers and a larger share of the consumers' dollar for the farmer." [8]

Regulation of supplies will mean, so it is claimed, better prices to the farmer. Under conditions of control of total supplies and known demand, "price-fixing is feasible" since important elements which determine prices are brought under control. It is recognized that control is limited to supply and to efficiency in marketing since demand is not to be affected except through diversions for relief purposes and by judicious advertising.

In the agreements submitted soon after the Act came into force there was distinct evidence of rigidity but some degree of flexibility is apparent in more recent submissions. This is particularly true in regard to the clauses relating to prices.

### *Conclusion.*

The legislation referred to in these articles is evidence of the growing importance of the State in controlling business. The demand for such control arises in part out of the chaotic conditions of depression, and also is an expression of the necessity of adapting business to meet the requirements of society. We are still groping about for an effective means of increasing business efficiency. In so doing we must be careful to preserve the good points of business organization as we have known it and to add to it such social control as is necessary to protect the interests of the primary producers and those of marketing agencies which are capable of efficiently rendering the services required by consumers.

Dr. H. Barton, Deputy Minister of Agriculture, Dr. J. F. Booth, Economics Branch, Department of Agriculture, Dr. A. K. Eaton, Department of Finance, C. B. Davidson, Dominion Bureau of Statistics, and A. Gosselin, Economics Branch, Department of Agriculture, have been appointed to the Dominion Marketing Board authorized under the Natural Products Marketing Act, 1934. Dr. Barton will act as Chairman. The offices of the Board will, it is understood, be in the Confederation Building, Ottawa.

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[8] Ibid. pp. 64.

## FARM CREDIT LEGISLATION IN CANADA, 1934.

Among the more important legislation passed at the fifth session of the 17th Parliament of Canada which prorogued July 3rd, were two bills dealing with Agricultural Credit. There were, Bill 92, "an Act to facilitate Compromises and Arrangements between Farmers and their Creditors" to be known as The Farmers' Creditors Arrangement Act, 1934, and Bill 93, "an Act to amend the Canadian Farm Loan Act," otherwise cited as "The Canadian Farm Loan Act Amendment Act, 1934."

### The Farmers' Creditors Arrangement Act, 1934.

***Purpose.***—The object of this Act is to provide simple and inexpensive machinery and procedure whereby farmers who are unable to meet their liabilities as they become due may propose to their creditors, without actually going into bankruptcy, a composition, extension of time, or scheme of arrangement of their affairs.

***Administration.***—The administration of the Act is entrusted to the Minister of Finance, the necessary expenses for administration being payable out of any unappropriated moneys in the Consolidated Revenue Fund. The machinery of administration is to consist of one or more official receivers appointed by the Governor in Council in each county or district or for any number of counties or districts of any province to which the Act applies, and a provincial board of review for each province. The provincial boards of review which are to be appointed by the Governor in Council are to consist of a judge of the superior court of the province who shall be chief commissioner, a commissioner to represent the interest of creditors, and one to represent the interests of debtors.

***Composition of Liabilities.***—The Act provides that any farmer who is unable to meet his liabilities as they become due may make a proposal for a composition, extension of time, or scheme of arrangement either before or after an assignment is made, such proposal to be filed with the official receiver of the district who shall perform the duties of official receiver, custodian and trustee under the Bankruptcy Act.

Following the filing of a proposal with the official receiver, the property of the debtor will be considered as being under the authority of the court and no creditor shall have any remedy against the property or person of the debtor except with the permission of the court, provided that a stay of proceedings shall not be effective for more than sixty days after the filing of the proposal with the official receiver. This period of time may be extended by court order. Any proposal which is approved by the debtor and his creditors becomes binding on all parties.

In any case where the official receiver reports to the Board of Review that a farmer has made a proposal but that no proposal has been approved by the creditors, the Act provides that the Board shall, on written request of a creditor or the debtor, endeavour to formulate a proposal acceptable to all parties concerned. It is required further that such a proposal should be based on the present and prospective ability of the debtor to perform the obligations prescribed and the productive value of the farm. The Board may decline to formulate a proposal in any case where it does not consider that it can do so in fairness and justice to the debtor or the creditors. If any such proposal is approved by the creditors and the debtor, it shall be filed in the court and shall be binding of all persons concerned. Should the debtor or the creditors decline to approve a proposal so formulated, the Board has the power to confirm such proposal either as originally drawn up or as amended by them in which case the proposal will be approved by the court and will be binding on both creditor and debtor.

***Interest on Farm Loans.***—In connection with interest on farm loans, the Act provides that if, whenever any rate of interest exceeding 7 per cent per annum is stipulated for in any mortgage on farm real estate, the mortgagor tenders or pays to the mortgagee the amount owing on such mortgage and interest to date, together with three months further interest in lieu of notice, no interest shall, after the three months period aforesaid, be chargeable on the mortgage in question at a rate in excess of 5 per cent per annum. The purpose of this provision is to release farmers from mortgages on which high rates of interest are being paid in order they may take advantage of credit which under the present conditions might be available at lower cost. While the remainder of the Act does not come into force in any province until so proclaimed by the Governor in Council, the above provision regarding rates of interest on farm loans comes into effect immediately.

### The Canadian Farm Loan Act Amendment Act, 1934

***Purpose.***—The purpose of this Act is to further extend the scope of the Canadian Farm Loan Act so that further credit facilities may be placed at the disposal of the farmer in order to enable him to carry on his business.

***Powers.***—The Act empowers the Board to pay any taxes levied on lands held by the Board as agent of the Crown. Heretofore, such lands were not subject to taxation.

Further additions to the powers of the Board were made providing that additional security on livestock or implements might be obtained where considered necessary to ensure the safety of a loan. The Board was also authorized, in any case where it was considered advisable, to give an extension of time for payment of arrears on loans, to write off amounts owing on account of principal or interest on any loan, and to make advances to borrowers to cover the cost of seed grain, fodder, fertilizer or harvesting expense. The maximum amount of the aggregate loan obtainable under the amended Act was reduced from $10,000 to $7,500.

***Funds.***—Amendment was also enacted in regard to the financing of the Farm Loan Board providing that the maximum amount of Farm Loan bonds which might be held by the Minister of Finance at any one time should be increased from $15,000,000 to $40,000,000. In order that Farm Loan bonds bearing a low rate of interest might be sold readily to the public, the Act also authorizes the Governor in Council to guarantee the payment of principal and interest on Farm Loan bonds to the amount of $30,000,000.

Further miscellaneous provisions provide for changes to be made in the wording of Farm Loan bonds and for the prepayment of all or part of a loan subject to certain regulations prescribed by the Board.

***Supplementary Advances.***—This section makes provision for further advances by the Board beyond the limit fixed for first mortgage loans under the Canadian Farm Loan Act. Such an advance may be made to any borrower for a period of not more than six years on the security of a second mortgage on farm lands and of a charge on live stock and other personal property, provided that the aggregate of all loans made to any one borrower does not exceed two-thirds of the appraised value of the land and buildings or the sum of $7,500. The amount advanced on security of the second mortgage and supplementary security may not exceed one-half of that advanced on the security of the first mortgage.

The purposes for which such loans may be used are listed as follows:—

1. To enable debtor to pay existing liabilities.
2. To purchase live stock and equipment necessary for the proper operation of the farm mortgaged.
3. To erect farm buildings or to make any permanent improvements tending to increase the productive value of the land.
4. For any such other purposes relating to the development and operation of the farm as the Board approves.

It is also provided that interest rates for such loans shall not exceed that charged on first mortgage loans by more than one per cent per annum.

***Loans to Mortgagees.***—In cases where the farmer mortgagor has made an approved composition or arrangement with his creditors under the Farmers' Creditors Arrangement Act, the Board is authorized to make a loan to the mortgagee up to one-quarter of the amount of the mortgage, on condition that such loan be disbursed to the farmer's account for such purposes in connection with the operation of the farm mortgaged as may be approved by the Board, and the mortgage assigned to the Board as security for the advance. It is further provided that the mortgagee shall not charge the mortgagor a rate of interest on such advances in excess of that payable on the mortgage assigned as security and in no case shall the rate of interest be more than 1 per cent greater than that charged the mortgagee by the Board. The purpose of such a loan is to enable a farmer who has made a composition with his creditors and who would otherwise be unable to finance current farm operations to obtain the necessary working capital. The inducement to the mortgagee to assist the mortgagor is the advantage accruing to him from the continued operation of the mortgaged property by the mortgagor. While the initial period of such a loan is one year, provision is made for extending the time of repayment for a further period not exceeding one year on application of the mortgagee. In this section of the Act "mortgagee" means any loan, trust or insurance company incorporated under Dominion or Provincial laws and may be extended to include such other corporations or persons or classes of corporations or persons as may be designated by the Governor in Council.

## MARKETING CONFERENCE AND CO-OPERATIVE INSTITUTE

Under the chairmanship of the newly appointed Minister of Agriculture for Alberta, Honourable F. S. Grisdale, a marketing conference and co-operative institute was held at Olds, Alberta, July 24th to 26th. The first of these conferences was held some years ago and represents an effort on the part of the farmers' organizations, provincial government and university to disseminate the utmost information on marketing questions.

This year special consideration was given to the Natural Products Marketing Act recently passed by the Parliament of Canada. The afternoon and evening of the first day were devoted entirely to this legislation and its possible application to Alberta conditions.

Included among the subjects for discussion on the second and third days were co-operative marketing of wheat, livestock, poultry and dairy products. Dr. H. W. Wood, veteran co-operator of the province, delivered an address on Co-operative Philosophy. The Consumers' co-operative movement was also given a place on the program.

Between two and three hundred were in attendance at the meetings from various parts of Alberta and British Columbia.

The delegates to the conference were quartered in the dormitories of the school of Agriculture and during the several days made full use of the splendid grounds and facilities provided by the institution.

## SASKATCHEWAN CO-OPERATIVE CONFERENCE

The Saskatchewan Co-operative Conference was held at the Legislative Buildings, Regina, June 28th and 29th. Mr. C. W. Deaver acted as Chairman of the Conference and Mr. B. N. Arnason of the Co-operation and Markets Branch, Department of Agriculture, was Secretary.

Subjects discussed included: Some Problems of the Co-operative Movement, The Development of Trade with the British Co-operatives, Co-operation Between Consumers' and Producers' Co-operatives, The Development of Consumers' Co-operation, Merchandising of Fuel Oils, A Co-operative Refinery, Co-operative Education, The Natural Products Marketing Act.

Approximately 100 delegates and visitors registered and it was decided that the Conference should convene annually. The following officers were elected: President, C. W. Deaver, Davidson, Saskatchewan; Vice-Presidents, H. L. Fowler, Wilcox, and Mrs. Pearl Johnston, Regina; Secretary, B. N. Arnason, Co-operation and Markets Branch, Department of Agriculture, Regina.

A special session for Managers was devoted to discussion of their problems.

A mimeographed report has been published by the Secretary.

## FARMERS' BUSINESS ORGANIZATIONS IN CANADA[1]

Records and statistics properly tabulated and summarized form a basis for investigation and comparative analysis in economic research. Such basic information with respect to the activities of farmers' business organizations for the whole of Canada has not hitherto been available. In certain provinces a record of co-operative activities is obtained each year but in others, with the exception of a return to the Registrar of Companies, no contact has been maintained. For several years the Labour Department of the Dominion Government, with the assistance of some of the provinces, obtained certain information concerning the movement for the purpose of compiling an annual directory. There has, however, been no co-ordinating agency to deal with the accumulation of economic and statistical data necessary for treatment of the subject on a national basis or for the study of experiences and accomplishments in particular fields of activity.

Since one of the purposes for which the Economics Branch was established was to study the farmers' co-operative movement, it was felt that the first step to take should be the acquisition of all the information possible on the activities of such agencies in Canada. To that end arrangements were made for a survey of existing organizations. Information was sought from all farmer-owned and controlled associations, companies, societies, and clubs actively engaged in business regardless of their methods of operation or form of organization. The information thus obtained has now been summarized. It is expected that such a survey will be undertaken annually or at intervals of a few years and that the information obtained will form the basis of a permanent record of co-operative activities.

***Summary.***—Information obtained by the Economics Branch in the first of these surveys shows that, of the companies at present active, 159 were established within the period from 1880 to 1915. During the next decade and up to the present time organization in business by farmers has made steady growth in numbers, membership and business transacted. The activities of the larger organizations such as wheat pools, live stock and fruit co-operatives have reached a high stage of development, and have received world wide recognition but the combined strength of organization in business of farmers in Canada has never been revealed. There are hundreds of comparatively small organizations which are working quietly and effectively serving local areas which are being discovered and recognized in this survey.

This report covering the business year of 1931 deals with the activities of 795 farmers' business organizations having 2,706 local branches making a total of 3,501 places of business. The shareholders and members financially interested number 379,687. The total investment of shareholders and members amounts to $38,643,598 exclusive of reserves of $7,732,027. Combined assets total $70,226,288 with plant and equipment valued at $45,607,366.

Sales of farm products for the period under review amounted to $134,611,154. The sales value of purchased goods totalled $10,665,503 and other receipts $27,297, which combined means a total business of $145,303,954. It should be kept in mind that this was a period of low prices with the index of farm prices standing at nearly 50 per cent below the 1926 level.

The farm produce marketed co-operatively in Canada as taken from returns received is given as an estimate. Whole milk handled amounted to 1,994,056 hundredweight, butter 34,357,329 pounds, cheese 19,324,907 pounds, apples 2,356,308 boxes and 675,019 barrels, potatoes 809,951 hundredweight. Live stock handlings totalled 3,496,647 hundredweight, poultry 12,341,822 pounds and 16,424,822 dozen eggs, and grain marketed is estimated at 175,580,591 bushels.

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[1] This short article has been adapted from a bulletin entitled "Farmers' Business Organizations in Canada", now in Press. The co-operation of the Department of Labour, Provincial Registrars of Co-operative Associations and a large number of farmers' business concerns is gratefully acknowledged.

## ECONOMIC LITERATURE

AYRES, L. P. The Economics of Recovery, MacMillan Co., New York, pp. 185, 1933.

This book reviews the origins and the progress of the depression in the United States and undertakes to make an analysis of the more important measures of legislation that have been enacted to meet the emergency, to consider their economic implications and the probable degree of effective aid that may be expected from them. In the final chapter an attempt is made to identify the fundamental requirements for recovery.

In his "estimate of the situation" Col. Ayres attributes the greater part of the trouble arising out of the depression to two factors. These are—"The great and irregular decline in price levels that paralyzed business" and "the long-drawn-out series of crises in credit."

He classifies all efforts of governments to aid in initiating business recovery from a depression into two groups—efforts to remove barriers blockading business, and attempts to stimulate business, and manipulation of money and credit through inflation. In this connection, he says, "Probably the fundamental principle of wise public policy in dealing with a serious business depression is that the national government should devote its efforts to the removal of those barriers that impede or prevent business recovery." Among these he includes money, the credit system, the railroad industry, taxation and the national budget, and trade relations with foreign nations.

In his discussion of Agricultural Relief, the author is critical of the Agricultural Adjustment Act and deprecates the farmers' need of relief, maintaining that their position has been better than that of industrial workers for some years. In summing up he states, "In the long run the effective remedy is to allow the material rewards of farming to work out their own cure by determining the number of farmers that the country can support . . . . Our experiments in the political planning of Agricultural production and farm prices have so far proved exceedingly costly and almost entirely unsuccessful."

The N.R.A. is denounced by the author as being unsound. Discussing what he terms as the reversal of the sequence of events in a recovery, he says, "In previous periods of business recovery industrial prices and volume of production have moved up ahead of wage increases. This has enabled producers to make profits and so has made it possible for them to secure bank credit with which further to expand output and to increase the volume of employment . . . . This time the theory of the new arrangement is that business should advance the increased purchasing power first, and then trust to resulting greater demands and increased output to make good the advances." He goes on to say that the obstacle in the way of the working out of this theory is that after four years of depression thousands of businesses cannot operate even temporarily at the losses resulting from the increased costs imposed by the new codes and still secure bank credit with which to expand operations.

Discussing inflation, Col. Ayres states, "The prospect of inflation and the programs of the inflationists paralyze initiative in the production of long-term goods because they threaten an indefinite expansion instead of the enduring control of the money and credit of the nation."

With regard to foreign trade, he expresses the opinion that, "Under the circumstances it would seem wise for us to accept as one of the conditions of recovery problem a continuing restriction in the volume and value of our export trade." With this in mind he challenges the wisdom of spending vast sums to open up new agricultural areas, to provide appropriations for agricultural experimentation and education and for loans for farmers.

The last chapter of the book is devoted to requisites for recovery. These are as follows: 1. The expansion of private enterprise rather than expenditure of public funds. 2. The re-establishment of sound money. 3. The re-financing of indebtedness.

## CURRENT ECONOMIC PUBLICATIONS

Imperial Economic Committee. Cattle and Beef Survey. A Summary of Production and Trade in British Empire and Foreign Countries I.E.C/S 1, His Majesty's Stationery Office, London, England.

Dominion Bureau of Statistics. Seventh Census of Canada, 1931. Population by Areas. Printing Bureau, Ottawa.

Agricultural Economics Research Institute, Oxford. The Agricultural Register 1933-34. Issued by the Agricultural Economics Research Institute, Oxford, England.

Contributions to Canadian Economics, Vol. VII, 1934. University of Toronto Studies, History and Economics. University of Toronto Press, Toronto.

## NOTES

The Cattle Industry Bill (emergency provision) was introduced into the British House of Commons on July 18th. This Bill established a fund to be known as the cattle fund out of which payments may be made on steers, heifers or cow heifers certified to conform to standards prescribed in the Act or on carcases of such animals. In the case of live animals payments shall not exceed 5s. per cwt. or in the case of a carcase shall not exceed 9s. 4d. per cwt., these payments may be made from a date to be proclaimed by the Minister until March 31, 1935, after which they shall cease and it is anticipated that a permanent scheme may come into effect at that time. Imported cattle are to be marked. The payment on an imported animal can only be secured when it is known that it has been in the United Kingdom for at least three months.

Dr. T. W. Grindley, Dominion Bureau of Statistics, Dr. Wm. Allen, University of Saskatchewan, and Dr. J. E. Lattimer, Macdonald College, P.Q., attended the International Conference of Agricultural Economists held at Bad Eilsen, Hanover, Germany, August 26th to September 2nd.

Mr. A. E. Richards, Economics Branch, Department of Agriculture, Ottawa, is at present engaged in a study of certain phases of apple marketing in the Annapolis Valley, Nova Scotia. This study is being conducted in co-operation with the Nova Scotia Department of Agriculture.

G. A. Newman, Assistant Trade Commissioner, London, England, writing in the Commercial Intelligence Journal reports that during the past six months (July 25) there has been more tomato puree, tomato sauce, ketchup and tomato soup imported from Canada into the United Kingdom than from any other country.

The Dairy and Economics Branches of the Federal Department of Agriculture are co-operating with the Dairy Branches of the Provincial Departments of Agriculture in Manitoba, Saskatchewan, and Alberta in a study of creamery management problems in the respective provinces.

G. H. Craig, University of Alberta, has undertaken a study of dairy production and marketing problems in areas surrounding Edmonton and Calgary. Field work in connection with production is now well under way. The Economics Branch, Department of Agriculture, Ottawa, is co-operating in this work.

Marketings of wheat in the three Prairie Provinces during the crop year up to July 27, 1934, were 226,808,811 bushels as compared with 370,611,784 bushels in the same period in 1932-33.

Exports of live cattle from Canada to Great Britain up to August 9, 1934, were 31,475 head as compared with 30,100 head during the same period in 1933.

*The*

# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. IV, No. 4 Published by Authority of the Hon. Robert Weir Minister of Agriculture December, 1934

## THE ECONOMIC SITUATION

PREPARED IN THE AGRICULTURAL ECONOMICS BRANCH, DEPARTMENT OF AGRICULTURE, OTTAWA, FROM BASIC DATA COLLECTED BY THE DOMINION BUREAU OF STATISTICS

The index number of wholesale prices in Canada receded from 72.0 in September to 71.4 in October. The index of vegetable products declined nearly 2 points while lesser recessions were registered in the indexes of fibres, textiles and textile products; wood, wood products and paper; chemicals and allied products. Gains were reported for animal products; iron and its products; non-ferrous metals, and non-metallic minerals. On the whole wholesale prices have been consistently above the level of 1933.

***Retail Prices.***—The index of retail prices, rents and costs of services advanced from 79.0 in September to 79.3 in October. The sub-index of food rose from 68.8 to 69.4. The fuel index advanced from 88.0 to 88.5 and that of rentals from 79.7 to 80.3. The latter index is of interest because it has been declining steadily since May, 1930. During the first nine months of 1934 the monthly index number of the value of retail sales has been below that of corresponding months in 1933 only in April and September.

***Physical Volume of Business.***—The index of the physical volume of business declined from 97.1 in September to 95.8 in October. Industrial production fell from 97.5 to 95.3. Mineral production rose from 132.7 to 141.9 chiefly on account of substantial gains in exports of zinc and copper and in shipments of gold. Output of silver, asbestos, nickel and lead was slightly lower, while coal production was barely maintained. The index of manufacturing fell from 99.5 in September to 94.6 in October. Flour production was lower but sugar production and tobacco releases were larger. Imports of crude petroleum, textiles and rubber were lower compared with the previous months. The forestry products' index advanced from 93.8 to 100.3 chiefly on account of the rise in production of newsprint. Exports of wood pulp, and shingles were higher but fewer planks and boards were shipped abroad. The index of iron and steel products was lower in October. The construction index was lower than in September although the number of building permits was greater. Production of electric power gained. Agricultural marketings were lower but storage holdings were higher than in September.

***Agricultural Products.***—Prices of agricultural products were on the whole lower than in September. The index, therefore, declined to 60.9. The index of prices of field products fell from 58.9 to 55.3, lower prices for grains and potatoes being largely responsible. The average price of No. 1 Manitoba Northern Wheat was 82.3 cents per bushel, basis Fort William and Port Arthur, in September, whereas in October the average price was 78.2 cents per bushel. Similarly prices of No. 2 C. W. oats fell from 45.7 to 41.5. No. 3 C. W. barley declined from 58.5 cents to 51.6 cents per bushel. Grain marketings were lower than in September. The index

## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1933 | | | | | | | | | |
| Jan. | 63.9 | 43.6 | 35.1 | 57.9 | 79.1 | 68.1 | 62.2 | 56.1 | 112.0 |
| Feb. | 63.6 | 43.0 | 36.0 | 54.7 | 78.4 | 67.0 | 60.0 | 76.5 | 127.6 |
| Mar. | 64.4 | 44.7 | 38.0 | 56.0 | 77.8 | 68.4 | 62.5 | 129.0 | 135.8 |
| April | 65.4 | 46.8 | 41.1 | 56.4 | 78.0 | 69.8 | 65.1 | 104.1 | 112.7 |
| May | 66.9 | 51.2 | 46.9 | 58.4 | 77.0 | 76.4 | 72.7 | 95.4 | 110.4 |
| June | 67.6 | 52.6 | 49.4 | 57.9 | 77.0 | 82.2 | 79.8 | 221.9 | 119.9 |
| July | 70.5 | 60.1 | 60.8 | 59.0 | 77.2 | 84.1 | 82.6 | 221.9 | 119.9 |
| Aug. | 69.4 | 57.0 | 54.9 | 60.5 | 78.6 | 89.8 | 89.5 | 197.2 | 114.2 |
| Sept. | 68.9 | 54.7 | 49.5 | 63.4 | 78.5 | 90.8 | 90.2 | 101.1 | 115.7 |
| Oct. | 67.9 | 51.4 | 44.6 | 62.8 | 77.9 | 88.2 | 87.4 | 70.5 | 112.7 |
| Nov. | 68.7 | 53.8 | 46.7 | 65.8 | 78.1 | 85.5 | 83.9 | 41.8 | 111.1 |
| Dec. | 69.0 | 53.3 | 45.3 | 66.6 | 78.4 | 86.2 | 85.1 | 30.7 | 107.6 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 126.1 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | 116.3 |
| Aug. | 72.3 | 61.6 | 60.7 | 63.1 | 78.7 | 99.0 | 99.8 | 172.8 | 114.7 |
| Sept. | 72.0 | 61.3 | 58.9 | 65.3 | 79.0 | 97.1 | 97.5 | 127.7 | 117.7 |
| Oct. | 71.4 | 60.9 | 55.3 | 70.4 | 79.3 | 95.8 | 95.3 | 61.2 | 128.3 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1931, p. 15.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1931, p. 33, and Monthly Mimeographs 1933 and 1934.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs 1933-1934.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical volume of business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

dropped from 139.0 to 57.9. The decline in receipts of wheat, barley and oats at the head of the lakes was particularly noticeable.

In the case of animal products the index rose from 65.3 to 70.4. This advance was due to higher prices for milk, eggs, hides, and skins which more than offset lower prices for cattle, hogs, and wool.

Marketings of live stock were very little below those in September, the index receding from 76.7 to 75.7. Cattle, calves and sheep were marketed in larger numbers but receipts of hogs were below those in the previous month.

Cold storage holdings advanced from 117.7 in September to 128.3 at the first of October. Supplies of eggs, butter, beef, pork and lard, cheese, mutton, veal and poultry increased.

***The Outlook for 1935.****—Business conditions in Canada continued to improve in 1934. Physical volume of business was higher than in 1933 and wholesale prices advanced. Prices of farm products also showed some improvement and as a result the farmers' position is somewhat better than a year ago. Present indications lead to the belief that there will be further gradual improvement in 1935.

Foreign demand will continue to be affected by trade barrier tendencies. There are, however, indications of rising prices and increased purchasing power. The employment situation in Great Britain has improved although there has been a tendency during recent months for living costs to rise.

Wheat has been moving more rapidly from farms during the present crop year than was the case a year ago but prices are still low and demand has not risen as rapidly as was anticipated. A careful analysis of the wheat situation suggests that Canadian wheat growers would be well advised to refrain from expanding wheat acreage in 1935. There seems to be opportunity for increasing acreages of oats, barley, rye, buckwheat, flax, and corn since reserves of these commodities are comparatively low and feed requirements may be high.

In regard to live stock, prospects are that total supplies of commercial cattle will be larger than in 1934. Some improvement in prices for good to choice cattle in the early winter is anticipated. The export market in Great Britain is not expected to show any appreciable change, although the shortage in the United States may react favourably upon the cattle industry in Canada. There are prospects for a moderate increase in exports of bacon to the United Kingdom in 1935 and hog marketings will not vary greatly from those of 1934. The domestic market for hogs should be slightly better if the anticipated improvement in prices of beef cattle takes place.

The production of sheep in Western Canada has grown to some extent but in Eastern Canada there has been a decline. The demand for lambs has been very brisk and therefore resulted in improvement in the sheep raising industry. Prospective supplies for 1935 would appear to be adequate. The wool market opened very briskly but has declined to some extent in recent months. On the whole, however, it has been fairly satisfactory.

The outlook for both poultry and eggs is reported to be more favourable than in 1934 when improvement over the previous year was shown.

Milk production continued an upward trend, larger quantities being diverted to the fluid milk market and to the manufacture of creamery butter. An outstanding feature of 1934 was the continued decline in the production of cheese. Indications are that unless there is a sharp rise in the price level, income from dairy products is not likely to increase to any great extent in 1935.

Improvement in demand for fruits and vegetable would indicate that markets for these products will at least be maintained at, or slightly above, the 1934 level. The extent of injury to apple trees during the winter of 1933-34 amounting to 40-50 per cent in Ontario will continue to affect supplies. Production of other tree fruits will probably be maintained. Prospects are that there will be an increase in the proportion of small fruits and vegetables produced for processing.

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*Based upon preliminary reports of committees engaged in preparing the Agricultural Situation. 1935.

## THE COMBINE HARVESTER

E. G. GREST[1]

During the summer of 1931 the Economics Branch co-operating with the Canadian Pioneer Problems Committee, the University of Saskatchewan and the University of Alberta, made an extensive study of Farm Power in Saskatchewan and Alberta. The analysis of data relating to combine harvester costs is briefly reported in this article. The areas in which the data were obtained are Davidson, Craik, Maple Creek and Richmond in Saskatchewan and Irwine, Hilda, Foremost, Bow Island and Olds, Alberta.

The areas visited in the southern parts of the two Provinces were fairly well suited to the use of combines for harvesting the wheat crop. A total of 63 combines was found on the farms included in the survey, 56 of which were found on farms in the southern areas and 7 on the farms near Davidson, Saskatchewan. Comparison of the combine harvester with the binder or header and threshing methods of harvesting crops is not attempted. More complete information than that included in this study would be necessary for a proper comparison of these methods. In areas where climate, uniformity of soil and regularity of topography make conditions favourable for combining this method of harvesting will probably be popular and profitable but where the crop ripens late in the fall and ripens unevenly or where the weather is likely to be damp or wet during the harvesting season, the risks encountered in the use of the combine harvester are serious. The losses in some years will be so large that harvesting by this method will prove more costly than when binders or headers and threshing machines are used.

*Costs of Operation and of Harvesting per Acre.*—The costs of operating the combines for which data were obtained and the cost of harvesting a crop per acre, not including the hauling of grain, are shown in Table 1. The cash costs to operate the combines, including labour and power to pull them, were $144.80 for 15 and 16 foot machines and $120.50 for 10 and 12 foot machines for the year 1930. Despite having a larger cutting bar the 15-16 foot combine was operating at 20 cents per acre while for the 10-12 foot combine the cost was 16 cents per acre. The lower cost per acre for the smaller machines was due to a greater number of acres harvested, an average of 736 acres in comparison to 709 for the larger combines. Interest, depreciation and servicing charges were also higher for the larger machines and thus, total operating expenses per acre for the 15-16 foot size were 92 cents while that of the 10-12 foot size were 80 cents per acre. If the larger machines had harvested as much crop in proportion to their size as the smaller ones then the operating expenses of each would have been more nearly the same.

The cost of man labour per acre required to operate the combine and tractor and the cost of tractor power to pull the combine was found to be slightly higher for the smaller machines. More acres were harvested per hour with the larger units thus lowering the cost of man labour per acre. The cost of tractor power was also lower in the case of the larger combine because, in many cases, the same size of tractor was used to pull both sizes of machines. A two-plow tractor can pull a 10-12 foot combine satisfactorily on level ground but the three-plow tractor is more generally used. A 15-16 foot combine is often drawn by a three-plow tractor and nearly as often by a four-plow size. Therefore, when calculating the cost of tractor power to haul the combines the average rate for the three-plow tractors was used for the 10-12 foot combines and a rate equivalent to using a three-plow tractor half time and a four-plow tractor the balance of the time was used for the 15-16 foot machines.

The total costs of harvesting a crop in 1930 were $1,138.80 per combine for 15-16 foot machines and $1,164.30 per combine for 10-12 foot machines. Reduced to an acreage basis the cost for the larger machine was $1.61 per crop acre compared to

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TABLE 1.—COMBINE OPERATING COSTS AND COST OF COMBINING PER ACRE, DAVIDSON, SASK. AND SOUTHWESTERN SASK. AND SOUTHEASTERN ALBERTA, 1930 CROP

| | Size of Combine | | | |
|---|---|---|---|---|
| | 15′ to 16′ | | 10′ to 12′ | |
| Number of combines | 48 | | 15 | |
| Average acres harvested 1930 | 709 | | 736 | |
| Average value $ | 1,736 | | 1,624 | |
| Average size of farm (acres of cropland) | 729 | | 669 | |
| | Per combine | Per acre harvested | Per combine | Per acre harvested |
| | $ | $ | | $ |
| Gallons of fuel used | | 0.41 | | 0.46 |
| Cost of fuel | | 0.11 | | 0.12 |
| Gallons of cylinder oil | | 0.02 | | 0.02 |
| Cost of cylinder oil | | 0.03 | | 0.02 |
| Cost of grease | | 0.01 | | 0.01 |
| Cost of hired labour repairing | | 0.01 | | |
| Cost of parts | | 0.04 | | 0.01 |
| Total cash costs | 144.8 | 0.20 | 120.5 | 0.16 |
| Interest at 6 per cent | 104.1 | 0.15 | 97.5 | 0.13 |
| Depreciation | 371.4 | 0.53 | 356.3 | 0.48 |
| Hours servicing, overhauling | 57.4 | 0.08 | 46.8 | 0.06 |
| Value of servicing[1] | 31.6 | 0.04 | 21.9 | 0.03 |
| Total operating costs | 651.9 | 0.92 | 596.2 | 0.80 |
| Cost of two men to operate combine and tractor[1] | 204.0 | 0.29 | 247.7 | 0.34 |
| Cost of tractor power to pull combine[2] | 282.9 | 0.40 | 320.4 | 0.44 |
| Total cost to combine crop | 1,138.8 | 1.61 | 1,164.3 | 1.58 |

$1.58 per acre for the smaller 10-12 foot combine. As stated before, the higher cost per acre for the 15-16 foot combines was due mostly to a smaller acreage handled per machine. If the large combines had been handling the same number of acres per foot of cutting bar as compared to the smaller ones then the cost of harvesting would probably have been 10-12 cents higher per acre for the small machines than that of the larger units.

***Relation of Acres Harvested to Cost.***—The combine harvester is a relatively expensive machine and, therefore, when a farmer purchases one he must have as many acres per year as possible in order to reduce the overhead costs of interest and depreciation due to obsolescence to a reasonable figure per acre. In most cases 700 acres or more for a 15-16 foot combine and 525 acres or more for a 10-12 foot combine must be harvested per year to obtain a reasonable cost per acre of crop harvested. When conditions are not particularly favourable for combining it might be necessary to plan on harvesting fewer acres per season to reduce the risk of loss to the standing crop due to early snow-storms even though the cost of harvesting per acre is increased. The data were sorted according to the acres harvested in 1930 and the resulting operating costs per acre and the total cost of harvesting per acre were obtained. These data are presented in Table 2.

It will be noticed that in both cases the difference in cost between the group having the lowest number of acres harvested and the middle group is very great but the difference between the middle group and the groups having the highest acreage harvested is small amounting to 12 cents per acre for the 15-16 foot combines and 23

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[1] The man labour rate for servicing these combines was 53.35 cents per hour. This rate was used to calculate the cost of the operator's labour of the combine and the tractor.

[2] The tractor rate used for 16′ combines was $1.48 and $1.38 for the 12′ combines.

TABLE 2.—ACRES HARVESTED PER YEAR, TOTAL COST OF OPERATING COMBINES PER ACRE, AND TOTAL COST OF COMBINING A CROP PER YEAR

| | Acres harvested | | | | | |
|---|---|---|---|---|---|---|
| | 15′-16′ combines | | | 10′-12′ combines | | |
| | 100-499 | 500-899 | 900-1340 | 75-374 | 375-674 | 675-1130 |
| Number of combines | 10 | 25 | 13 | 2 | 6 | 7 |
| Acres harvested per combine | 296 | 687 | 1,070 | 295 | 536 | 1,033 |
| Acres cropland per farm | 563 | 751 | 814 | 378 | 662 | 758 |
| | $ | $ | $ | $ | $ | $ |
| Total cost of operating combine per acre | 1.58 | 0.91 | 0.79 | 1.38 | 0.94 | 0.71 |
| Cost per acre: | | | | | | |
| 2 men operating | 0.29 | 0.29 | 0.29 | 0.34 | 0.34 | 0.34 |
| Tractor power | 0.40 | 0.40 | 0.40 | 0.44 | 0.44 | 0.44 |
| Total cost of harvesting per acre of cropland | 2.27 | 1.60 | 1.48 | 2.16 | 1.72 | 1.49 |

cents for the 10-12 foot combines. Therefore, up to 700 acres or somewhat over, the saving in increased acres harvested per combine is large for the 15-16 foot combines. The same condition holds true up to 525 acres for the 10-12 foot combines. In the higher acreage groups although the saving with increased acres harvested is still quite evident it is not nearly so marked and, in some areas, it may not be profitable to plan on harvesting more acres due to the increased risk of crop loss.

## THE AGRICULTURAL SITUATION

Through the co-operation of the Department of Trade and Commerce and the Department of Agriculture, the second annual review of the Agricultural Situation will appear early in January. The purpose of this review is to bring into concise form all the known factors affecting the supply of and demand for agricultural products in both domestic and foreign markets. With this information as a basis, farmers may adapt production and marketing policies to changing economic conditions; extension workers will be provided with data upon which to plan their programs; administrative officers will be assisted in formulating policies regarding production and marketing; and those responsible for the advancement of information to farmers will be able to present a more unified point of view with respect to the immediate future and the longer trends in agricultural production.

The report will include an analysis of foreign demand and competition; the domestic situation and each of the more important farm products will be considered separately. In this way, a rather comprehensive survey of the whole situation is anticipated. It is believed that this service will become increasingly important in the work of both Federal and Provincial Departments of Agriculture. The Provincial Departments of Agriculture in Saskatchewan and Nova Scotia have during the past two years prepared Outlook reports for distribution to farmers in their respective provinces and it is hoped that such policies may be possible in other provinces as well so that the farmer will be supplied with the best available economic information upon which to plan his business operations for 1935.

The report has been prepared by committees composed of officers from the Department of Trade and Commerce and the Department of Agriculture who will meet with representatives of the Provincial Departments of Agriculture and Agricultural Colleges in a three day session to be held in Ottawa, November 29th, 30th and December 1st at which the final draft will be completed. This bulletin will be distributed by the Publications Branch of the Department of Agriculture, Ottawa.

# OBSERVATIONS ON THE ECONOMIC PROBLEMS OF GROWING FRESH VEGETABLES IN THE SOUTHERN INTERIOR OF BRITISH COLUMBIA[1]

A. E. RICHARDS[2]

Relatively high cost of production and the perishable nature of the product make vegetable growing one of the most hazardous of farming ventures. This is a general statement, but one which seems quite applicable to vegetable growing on the irrigated lands of the Southern Interior of British Columbia. In that area it has become a specialized type of farming and profitable returns have proven highly speculative. Markets for the crop have been transitory. Early commercial shipments which date back to the nineties and preceded fruit shipping on a commercial scale supplied mining camps in the Kootenay Valley and other mining districts in the province. The rapid populating of the prairies followed and the industry expanded to supply that market.

Following the war many of the mines were closed and that market restricted and now some observers hold the view that the British Columbia grower is gradually losing his command of the prairie market. There was a time when vegetable growing on the western prairies of Canada was not seriously considered as a commercial enterprise. By selection and improvement, varieties adaptable to the prairie growing season are now being produced in quantity and it is claimed by interested authorities that the three prairie provinces are rapidly moving towards a self sustaining position in respect to certain vegetables. Movement is reported of a number of growers of vegetables from the higher priced lands of the Okanagan Valley in British Columbia to irrigated prairie lands in the neighborhood of cities and towns in Southern Alberta. The statement is also made that British Columbia vegetable growers must look more and more to an off-season market on the prairie. While the local supply is in season it commands the market and the preference. It is placed on the prairie city markets in a fresher condition and without the handicap of a long transportation haul. There is another supply factor which may be taken into consideration. Due to the low price of grain it has been stated that a number of prairie farmers have turned their attention to vegetable production as a side line and undoubtedly they are growing more vegetables to-day for home use than in former years.

On the other hand the growing of vegetables on the prairies is precarious due to weather conditions. The Southern Interior of British Columbia has a more reliable and a longer growing season which enables the product of that area to be placed on the market before and after local supplies are available. Storage facilities in the Okanagan Valley also enable the vegetable growers to extend the marketing period considerably beyond the usual growing season.

A study of importation statistics shows that the United States still provides a large proportion of the prairie cities' vegetable supplies, a great deal of it being sold in direct competition with British Columbia products at a time when they are in season. The British Columbia growers are displacing the imported products no doubt to a certain extent, as production figures show that supplies and movement of tonnage to the prairie have been maintained over the past few years. While there has been a dropping off in the movement from British Columbia of some kinds of prairie grown vegetables, there has been an increase in certain other vegetables not commonly grown on the prairie lands. These include asparagus, peppers, eggplant, citron and cantaloupes.

The total vegetable acreage in the Interior of British Columbia has averaged 9,146 acres in the last ten years. During that period 1926 was the peak year with 10,303 acres. For 1934, an area of 8,194 acres was reported. The average annual value for four years 1927-1930 of the vegetable crop in the Interior of British Columbia was estimated at $1,501,980. Of this the cannery vegetable crops accounted for about one-fifth.

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[1] This article is based on interviews and observations during the writer's visit to the Okanagan Valley and is presented as the popular view rather than a subject of research.

[2] Agricultural Economist, Economics Branch, Department of Agriculture, Ottawa.

Table 1 shows the production of seven vegetables including tomatoes and cantaloupes during the last five years in the Interior of British Columbia.

TABLE 1.—PRODUCTION OF VEGETABLES IN THE SOUTHERN INTERIOR OF BRITISH COLUMBIA 1929-33*

| Year | Semi-ripe tomatoes | Cannery tomatoes | Lettuce | Cucumbers | Celery | Onions | Cantaloupes | Potatoes |
|---|---|---|---|---|---|---|---|---|
| | crates | tons | pkgs. | pkgs. | tons | tons | crates | tons |
| 1929 | 292,285 | 18,994 | 28,599 | 175,079 | 1,044 | 10,938 | 10,000 | 6,983 |
| 1930 | 264,894 | 25,582 | 12,908 | 138,697 | 826 | 8,720 | 13,050 | 6,170 |
| 1931 | 347,530 | 8,371 | 19,378 | 175,271 | 959 | 10,681 | 11,537 | 7,486 |
| 1932 | 294,860 | 8,939 | 20,587 | 96,947 | 782 | 13,089 | 20,756 | 4,958 |
| 1933 | 371,672 | 13,435 | 13,406 | 122,779 | 1,047 | 10,184 | 30,239 | 8,460 |

*Statistics from British Columbia Department of Agriculture, Vernon, B.C.

Out of the 8,194 acres estimated to be planted to vegetables in the 1934 season, 6,541 acres or 80% include those named in the Table 1. This table indicates that production although variable has not dropped to any appreciable extent during the last five years. Available statistics showing car arrivals at various prairie points do not differentiate between Interior of British Columbia and the Lower Mainland shipments. The whole of British Columbia is included in the one classification and it shows that shipments from the province have not been reduced as would be expected with growing competition from prairie vegetables. That British Columbia vegetables are displacing importations seems a reasonable conclusion which is further exemplified in Table 2.

TABLE 2.—ARRIVALS OF CAR LOADS OF VEGETABLES AT CITIES IN WESTERN CANADA FROM BRITISH COLUMBIA AND UNITED STATES 1931-33*

| | Calgary | | Edmonton | | Regina | | Winnipeg | |
|---|---|---|---|---|---|---|---|---|
| | B.C. | Imported | B.C. | Imported | B.C. | Imported | B.C. | Imported |
| | cars | cars | cars | cars | cars | cars | cars | cars |
| 1931 | 473 | 221 | 374 | 172 | 182 | 167 | 145 | 603 |
| 1932 | 361 | 165 | 305 | 113 | 184 | 113 | 160 | 422 |
| 1933 | 501 | 136 | 352 | 84 | 122 | 93 | 215 | 352 |

*Statistics from Dominion Fruit Branch, Ottawa; cars of mixed fruit and vegetables included in items.

Average prices for the past eight years for a number of kinds of vegetables are given in Table 3. They show considerable variation from year to year with the usual decline from the peak years of 1928 and 1929. Prices improved somewhat in 1933 and this season to date are considered to be as good as last year.

In addition to competition for markets the original growers who are mainly of British origin from Eastern Canada and the British Isles are faced with competition in the production of their vegetable crops. This is largely a racial problem. A very large number of the growers at the present time and an increasing proportion are of other nationalities. With all members of the family in the field, working from daylight to dark, seven days a week, and with their different standard of living it is claimed that

TABLE 3.—AVERAGE F.O.B. PRICES FOR A NUMBER OF VEGETABLES AT INTERIOR OF BRITISH COLUMBIA SHIPPING POINTS, 1926-33*

| — | Onions | Semi-ripe tomatoes | Cannery tomatoes | Cucumbers | Lettuce | Cantaloupes | Celery |
|---|---|---|---|---|---|---|---|
| | per ton<br>$ | per pkge.<br>$ | per ton<br>$ | per pkge.<br>$ | per crate<br>$ | per crate<br>$ | per lb.<br>$ |
| 1926 | 20.00 | 1.00 | 16.50 | 0.45 | 2.40 | 1.75 | 0.02 |
| 1927 | 35.00 | 1.00 | — | 0.54 | 2.50 | 2.27 | 0.02¼ |
| 1928 | 40.00 | 0.65 | — | 0.65 | 1.80 | 2.50 | 0.02¼ |
| 1929 | 32.00 | 1.30 | 17.50 | 0.70 | 3.00 | 2.20 | 0.03½ |
| 1930 | 30.00 | 1.05 | 17.50 | 0.60 | 2.30 | 2.10 | 0.03½ |
| 1931 | 20.00 | 0.60 | — | 0.40 | 1.80 | 1.65 | 0.03 |
| 1932 | 12.00 | 0.50 | 10.00 | 0.35 | 1.50 | 1.75 | 0.03 |
| 1933 | 15.00 | 0.60 | 10.00 | 0.35 | 1.25 | 1.75 | 0.03 |

*Statistics from British Columbia Department of Agriculture, Vernon, B.C.

they have displaced the original grower or forced him for economic reasons to rent his land. Although a number of the original settlers are endeavouring to hold their homes and holdings established in the growing of vegetables they cannot adjust themselves to the competitive standards and habits of living. The situation becomes a sociological problem of grave importance to the permanent welfare of the Valley.

***Basis of sale.***—Most of the vegetable crop is sold for cash with payment within two weeks from time of delivery. As a general rule the foreigner does not understand the complexities of the market. He does not comprehend pooling and waiting for returns and is willing to accept less for cash. Straight purchase has, therefore, become the general practice among independent as well as co-operative shipping houses. As there are usually more marketable vegetables offered than can be marketed, price cutting and consigning come into play, all of which bring about market instability. The perishable nature of the product aggravates the problem and it is frequently rushed on to an already over-stocked market. This results in a further break in price and often loss to the grower. Some growers complain of the activities of certain shippers who, on an expected rising market, act as dealers and buy at a firm price with a chance for profit. When the market tends to swing downward they become agents operating on a commission basis and leave chance for loss to the grower.

A considerable proportion of the vegetable crop is moved to market centres in mixed carloads containing fruit and some vegetables. The complaint is frequently heard among growers that their vegetables are used as "loss leaders" to make contacts with the trade at receiving centres and to help sell the fruit.

***System of Land Tenure.***—The original growers are land owners. Only a small proportion of the foreign population own land in the interior of British Columbia although the number is increasing. In the Ashcroft, Kamloops and Vernon areas vegetable growing is largely on a cash rental basis. In the Kelowna district about 70% is on a share basis and 30% cash rented. Under this crop-share plan the owner provides land and water, pays all taxes, does all horse work, supplies one-half the seed or plants and sacks together with 50% of fertilizer and cut worm poison. The land owner supplies the tenant with a house to live in. In hauling manure the tenant supplies help. The tenant plants, cultivates and harvests the crop. The crop itself or the proceeds of the crop are shared by owner and tenant on a fifty-fifty basis.

In the cash rental districts the tenants are largely of Chinese origin. The landlord receives a rental of $10 to $15 per acre and in certain districts the renter pays an additional charge of $5 or $6 per acre for water to irrigate his land. In the Ashcroft district the ranchers are few in number but their land holdings are large. They are nearly all cattlemen, with irrigated hay land on the flats under private irrigation systems. The renter fits into the ranch organization. He irrigates the hay land and grows vegetables as a cleaning crop in a crop rotation on the older stands of alfalfa.

***Size of Holdings and Hired Labour.***—The size of holdings of specialized vegetable growers vary with an average of about ten acres per holding. Several vegetables are usually grown in combination with one or two kinds as major crops. Four acres form a one man unit of onion production for the tenant with additional help at thinning and harvesting. Eight acres is regarded as a one man unit for tomatoes on the rented lands. On a ten acre block of tomatoes a man and his wife work all through the season with one helper. During planting and harvesting additional help is hired. On a ten acre block of onions a man and his wife do practically all the work themselves. Such industry means long hours of work every day in the week without relaxation or social recreation.

## INTERNATIONAL CONFERENCE OF AGRICULTURAL ECONOMISTS

Three Canadians—Dr. J. E. Lattimer, Macdonald College, P.Q., Dr. W. Allen, University of Saskatchewan and Dr. T. W. Grindley, Dominion Bureau of Statistics—attended the Third International Conference of Agricultural Economists at Bad Eilsen, Germany from August 26 to September 1. The meetings were held at a quiet resort situated in the Weser valley of Lower Saxony. While the immediate vicinity of Bad Eilsen is pleasantly hilly and wooded, the surrounding country forms one of the finest farming regions of Germany. Well-directed trips through the farms gave the delegates an opportunity to become acquainted with the methods of husbandry. The intensive cropping and the strip-farming which has continued since the Middle Ages were the most interesting features to overseas visitors.

The objective of the Conference was to provide an opportunity for discussing fully and frankly the many problems that have arisen out of the world agricultural crisis, the various means taken to meet them and the possible ways for definitely overcoming them through national action and international co-operation. In the formal discussions but particularly outside the conference room, the problems of agriculture were thoroughly covered. The means of correction were found by the speakers to lie almost entirely within the field of national action and the methods of correction differed so greatly among the countries that the benefits of discussion were somewhat diminished. "International co-operation" in the discussions was practically limited to the opening remarks of the President, who sponsored the gospel of more trade and more credit, based on more faith between nations. The discussion, however, quickly turned to practicality and nationalism. Striving for independence—agricultural, commercial and financial—most countries of the world have gone far into the field of uneconomic production. Control policies are being formulated everywhere to build up the nations within their borders and with consequent depreciating influences on world trade. This, plainly enough, is a situation which Canada must appreciate; our hope for the present and at least for the immediate future lies in Empire trade and, to a lesser extent, in trade with the United States and South America.

The Conference proper was presided over by the President, Mr. L. K. Elmhirst, ably supported by the Vice-presidents, Dr. Sering, Deutches Forschungsinstitut Für Agrar—und Siedlungswesin, Berlin and Dr. Warren of Cornell University, Ithaca, N.Y. Dr. Zorner of Berlin and J. P. Maxton of Oxford also did a great deal to make the Conference a success. The language difficulty was well handled through concurrent translation. Those not able to understand the language in which a paper was being presented could hear the paper in their native tongue merely be donning the ear-'phones.

## REGULATION OF MILK SUPPLIED IN SASKATCHEWAN

Control measures affecting the milk industry are now operative in five of the nine provinces in Canada. Manitoba was the first province to have such regulation, an act being passed in 1932 to bring the milk supply of Winnipeg under the Public Utilities Commission. In Alberta, similar legislation went into effect in August, 1933, controlling milk in Calgary and Edmonton. A separate body to regulate milk in Quebec was set up in April 1933, and in the winter of 1933-34 a milk commission was appointed to supervise the distribution of milk throughout the whole province. A milk control act was passed in the 1933-34 legislative session of Ontario. A separate body, having jurisdiction over the whole province, was appointed to supervise the act. Legislation for milk control in Saskatchewan was also provided at the 1933-34 session of the legislature of that province.

The regulation of milk supplies in Saskatchewan comes under Part III of the Local Government Board Act. The Act was extended to include this legislation as a result of the recommendations made by the Saskatchewan Milk Enquiry Commission, 1933[1]. The Act gives the Local Government Board jurisdiction upon its own initiative or upon complaint in writing, to enquire into any matter relating to the production, supply, distribution or sale of milk. After such enquiry if the board sees fit it may make such regulations or orders as it deems necessary.

The Board may prescribe the area in which regulations shall have effect and may require all persons who distribute, process, or sell milk in any such area to be authorized to do so. The Board may also classify milk producers, processors and distributors and may establish from time to time temporary schedules of prices at which milk shall be supplied by the respective classes. The Board may require distributors to keep adequate records and to report their operations to the Board when asked.

To offset the cost of administration of the regulation of milk supplies the Board may assess producers and distributors in any prescribed area for such sums as may be necessary. If deemed expedient the board may license either producers or processors or distributors and charge a reasonable fee for the licence. Licences may be refused, cancelled or suspended.

The Board also has the powers of inspection and examination. It may enter any building or plant, summon witnesses and require the production of records and accounts.

Every person who violates any regulations of the board is liable to a fine not exceeding $100 per day for each day during which the offence continues.

The board may recommend the appointment of an administrator and such inspectors and other staff as may be necessary to carry out the provisions for the regulation of milk supplies.

The first milk administrative order was issued for Moose Jaw on July 21, 1934. One for Regina followed soon after. Both went into effect on August 1. Order number three was made for Prince Albert, while on October 27, Yorkton, and on October 29, Saskatoon, milk supplies came under regulation.

Complaints in writing from the producers, distributors or both were received by the board from each of the five places mentioned above. The board held enquiries and decided that temporary schedules of prices should be established.

The price established for milk delivered by the producer on August 1, was 45 cents per pound butter-fat in both Regina and Moose Jaw. On October 1, this price was raised to 50 cents in the case of Regina and 52 cents in Moose Jaw. From November 1 to December 31 Saskatoon producers will receive 48 cents per pound butter-fat and Yorkton producers will get $1.55½ per hundred pounds for 3.5 milk with 3 cents added or deducted for each one-tenth above or below 3.5 per cent.

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[1] The reader is referred to the Economic Annalist, Volume IV, No. 2, page 19, for a brief review of the recommendations made.

Consumers in Regina, Moose Jaw and Saskatoon pay 10 cents a quart for milk from the distributors. In Yorkton they pay 8 cents per quart. Stores can buy bottled milk at one cent less than this figure and take one cent per bottle spread, except in Regina where the price of bottled milk to stores was raised to 10 cents and to consumers through stores to 11 cents per quart. Hotels and like institutions buying milk in bulk pay 32 cents per gallon in Regina, Moose Jaw and Saskatoon and 26 cents per gallon in Yorkton. Prices for chocolate milk, vi-co, and the various grades of cream are also set for the consumers, stores and hotels. Milk to be separated for the fluid cream trade is paid for at a lower rate to the producer.

Licences are required in each city for all persons who distribute and sell milk. The fee for a licence is three dollars in Regina, Moose Jaw and Saskatoon and one dollar in Yorkton. Producers have not been licensed except in so far as they are distributors.

Payment of a fee of 4/10 of a cent for each pound of butter-fat delivered is required of every producer and 4/10 for each pound sold of every distributor in each of the three larger cities. In Yorkton 1½ cent per hundred pounds of milk is assessed to both distributors and producers.

The distributors in each city must pay the producers on the 20th and 5th of each month. Distributors deduct the fee from the producers' returns and pay the amount to the board together with the fee assessed on them.

Dr. G. H. S. Barton discussed the marketing of farm products in an address delivered before the members of Canadian Society of Technical Agriculturists at a dinner held in the Chateau Laurier, Ottawa, on November 13th. In the course of his address, Dr. Barton pointed out the need for educational work in respect to marketing. These problems, he stated, should be studied by the research method of approach. He gave as a solution to our problem of "abundance" the stimulation of home consumption. Consumption, he said, has been taken for granted in the past; it should now be examined. To stimulate home consumption, producers must supply consumers that which will appeal to them, and products must be of the very best quality. Service to the consumer should become the motto.

Reports of creamery butter production for the nine months ending September 30th, 1934, show a total of 189,473,377 pounds manufactured as compared to 177,988,052 pounds for the same period of 1933, an increase of nearly 11½ million pounds or 6.45%. All provinces report increases except Prince Edward Island and Nova Scotia. Should creamery butter production be maintained at the increased rate of production of the first nine months, total production for 1934 will show a further increase over the five-year average 1929-33 than was recorded for 1933, which was 6.6%.

The Dominion Marketing Board appointed under the Natural Products Marketing Act, 1934, has approved of five schemes which are now in operation. The first one approved was that for tree fruits produced in certain sections of British Columbia. The second was a scheme to regulate the marketing of apples and pears for export. The third applies to the export to the United States of red cedar shingles, produced in British Columbia. The fourth regulates the marketing of dry salt herring and dry salt salmon produced in British Columbia and the fifth is to control the marketing of flue-cured tobacco in the province of Ontario.

A meeting of the Joint Committee on Economics composed of representatives of the Dominion and Ontario Department of Agriculture and the Department of Economics at the Ontario Agricultural College, and Queens, Toronto and Western Universities was held in Toronto, November 3rd. Research work was reviewed and plans for new work outlined.

## PRICE POLICIES

Price cutting is the cause of much complaint among growers and shippers of farm products and constitutes a very difficult problem due to the fact that it may arise from a variety of causes.

In the first place price cutting may be regarded as a form of competition. It is particularly apt to occur in seasons when the existence of an over-supply is known and shippers become panic-stricken in anticipating a sharp fall in prices. It may also occur when there are two or more types of growers, one of which has a lower standard of living than the others. This is particularly true where a large proportion of the work can be done by hand and the operators are willing to accept low prices. It is frequently used by dealers as a means of securing new trade contacts and in increasing sales through established outlets. It may also be used as an advertising device. Very often price cutting arises through the necessity of growers having to sell out a crop early in the season in order that they may secure cash to liquidate debts. Sometimes price cutting takes the form of a rebate. It should be recognized, however, that lower quotations may result from more efficient production or marketing and for this reason price policies must be closely studied in order that the real effect may be understood.

An example of the first mentioned type is found in the case of a large supply which dealers seek to move quickly so that they may dispose of their holdings before the real break in prices occurs. Very often such action precipitates the very situation which it was sought to avoid.

An example of the second type may be found where white growers compete with growers of certain other racial types. The vegetable grower who is not of white origin may utilize hand labour almost exclusively, work long hours, and accept a relatively small cash payment rather than assume the risk of carrying the crop for a longer period so as to adjust supplies more nearly to demand. The offer of an attractive price as a means of securing new outlets is well known and needs little explanation. Sometimes it may happen that brokers may wire for quotations. Inevitably one will be lower than the rest and the broker may then wire another dealer to the effect that the product may be bought at a price below this quotation. The second dealer may then assume that his original quotation was too high and will either quote at the lowest figure previously offered or cut under it. In this way the price is lowered.

An example of price cutting as a means of advertising is found in the "leader" policy adopted by certain stores, in which case a product may be sold below cost in order that customers may be attracted to the stores and in addition to purchasing the leader, will be persuaded to buy products displayed at regular prices.

The relation of "distress selling" to price cutting is pretty well established. A shipper or grower who is in need of cash very frequently will under-quote the generally recognized price in order to secure a quick turnover and satisfy his creditors. One example of the rebate system may be found in the case of a direct purchase by a wholesale receiver from a shipper. The wholesaler may request that the price be lower by the amount of the brokerage charge which has been avoided. This places him in a position to under-quote his competitor and results in lower values for the shipper.

The foregoing illustrations all deal with price cutting among firms assumed to possess equal efficiency. There are, however, circumstances under which competitive conditions result in lower prices because of increased efficiency. A new area of very fertile land may be brought into cultivation and growers in that area may be able to undersell established producers in their own markets. A new and cheaper method of processing may be introduced or an established business may be reorganized so that operating expenses are reduced, and as a result the business may be able to undersell competitors and still make an adequate return to stockholders. Consumers and growers, too, are entitled to the benefits of such efficient service.

From this brief outline of price cutting methods it will be apparent that there is ample room for abuses to creep into business policies. A rigid price is apt to be even less satisfactory because a rigid price which is too low fails to call forth the necessary supply and to stimulate efficient performance of marketing services. Contrariwise a rigid price which is too high may for a time enable excessive profits, but eventually stimulates a surplus. Most farmers' business organizations are obliged to adjust supply to demand as well as can be done, and to market annual supplies of the product excluding a reasonable carryover within the annual cycle of production and consumption. Efforts of independent handlers to stabilize prices through gentlemen's agreements are difficult to enforce and may be questioned on legal grounds. Adjustment of supply to demand is not a simple process because free competition does not always exist. Farmers who are widely scattered find it difficult to make such adjustments unless some central marketing agency operates in their interest. The alternative is to set up legal machinery and safeguards under which growers and dealers in farm products may effect a measure of regulation of marketing without injuring the consumer.

## ECONOMIC LITERATURE

MacKintosh, W. A. Canadian Frontiers of Settlement. Volume 1, Prairie Settlement, the Geographic Setting. The MacMillan Company of Canada, Limited, 1934.

This book is the first of nine volumes on the Canadian Frontiers of Settlement. The volumes present some of the results of research carried on by the Canadian Pioneer Problems Committee since its organization in 1929. Dr. Isiah Bowman, Director of the American Geographical Society of New York, has guided the project from the outset, and the Social Science Research Council has, by generous grants of funds, made possible the five-year programme of research and the publication of this and the other eight volumes.

This volume outlines the Geographic setting of Prairie Settlement. The first four chapters deal with the land and the climate, agricultural exploration, railways and settlement, and the spread of settlement.

The settler coming to the Canadian grasslands was confronted with many unfamiliar problems. Frost in the north and drought in the south made crops precarious. Adequate transportation was lacking. In the majority of cases the settler's traditional knowledge was not suited to grappling with the problems which confronted him. Early explorers namely, Captain John Palliser, Sir John Richardson, Dr. Richard King, S. J. Dawson and Professor John Macoun, made studies of the frontier and gave opinions as to the desirability of settlement and probable extent of suitable agricultural land. The need of some market or conveyance for grain was stressed by Sir John Richardson.

In 1878 the first railway reached Winnipeg. It connected the Red River Settlement with St. Paul and Chicago. By 1883, the Canadian Pacific Railway stretched north of the Great Lakes to link Winnipeg with Eastern Canada. In 1885 the first transcontinental line was completed from coast to coast. From a series of maps presented in the book it appears that the railways followed the settler rather than preceded him. For the most part railways now have been built up to the ten-mile limit, that is to say the settler in general is within a ten-mile radius of a railway point.

In Chapters 5 to 8 the various sub-regions of the Canadian interior plain are outlined. The author discusses the climate, topography, agriculture and density of settlement in these sub-regions. Physiographically the interior plain of North America forms one region. The region, however, is subdivided into a number of sub-regions differing from one another in topography, climate, vegetation, and soil. The Canadian section may be divided into five sub-regions: (1) the Red River Valley, (2) the Park Belt, (3) the Prairie Plains, or semi-arid belt, (4) the Forest Belt, and (5) the Peace River Valley.

The Red River Valley has been settled longer than any other part of the Canadian Plains. Its climate and soils are well known and understood. Its problems are not pioneer problems but those of maturity. With changes in land utilization changes in rural population may occur. Increases are somewhat dependent upon a larger market being afforded by the urban area of Winnipeg. With the exception of the Red River Valley, the Park Belt is the most densely settled area of the western plains. Practically all townships in it have a rural population density of five to ten persons or greater. Since the size of farm throughout the Park Belt is increasing as in other areas, it is unlikely that the density of rural population here will increase greatly, except in foreign language settlements.

An especial problem in regard to permanency of settlement exists in the dry belt of the prairie plains area. Permanent settlement of the dry belt will probably be advanced in three ways. First as markets expand some increase in the irrigated areas may be expected. Secondly, areas less favoured in topography and soil but better watered will turn more strongly to grazing. Thirdly, grain growing with improved rotations and improved tillage, larger enterprises with sufficient capital to average the good years with the bad, will use the better soils and the better topography.

Settlement in the wooded area has been difficult and slow. The cost of clearing the land has been a powerful deterrent. In part, the slowness with which railways came to serve the sparse settlements of the Forest Belt was an obstacle to further settlement. Over the whole transitional soil belt from Manitoba to Alberta from 33 to 70% of the land is classed as unsuitable for cultivation. On the basis of this evidence one can predict that the density of settlement in these areas will be low, and that the problem of maintaining adequate transportation, governmental, and social services for the settlements will be correspondingly difficult.

The Peace River Valley is the area in which settlement has been most active during the past decade. The southern boundary of the Peace River Valley is about 54° and the land is being tilled north of 58°. Markets are distant, Grand Prairie being 407 miles from Edmonton; 1,178 miles from Vancouver, and 2,555 miles from Montreal, its two ocean ports. Settlement in the Peace River Valley is so recent and so immature that the ultimate distribution of population is not apparent. It may be predicted, however, that unless restricted by transportation difficulties, population will attain higher densities on the parkland soils.

Chapter 9, deals with climatic variability of the western plains. Over the greatest part of the region it is necessary to conserve moisture, and in considerable areas early maturing grain and speed in farm operations are necessary to avoid the penalties of a short growing season. The margin of safety in both cases is comparatively narrow. The wheat farmer in Western Canada is engaged in a business subject to unusually sharp fluctuations, imposed on it in greater or less degree by pronounced variations in rainfall and the other climatic conditions of wheat growing, and by the necessity of competing in a far distant world market for the sale of a raw material.

Chapter 10, the final chapter, is devoted to a discourse on the probable limits of settlement. Under favourable economic conditions land in farms may be expected to increase by 20 million to 30 million acres, depending upon the proportion of woodland included. The extension of the agricultural area, the substitution of "mixed farming" for grain farming, and the high rate of natural increase among the non-Anglo-Saxon population are factors favourable to an increase in rural population. The extension of mechanization and the increasing size of farms are factors limiting such an increase. Markets for the products of mixed farming are not likely to be extended rapidly; the area of suitable land open for settlement is not large; and the size of farms on the Canadian plains is still considerably less than that in corresponding parts of the plains in the United States. For these reasons, it is likely that further increases in the rural population of the Prairie Provinces will be small, and that in the near future decline may succeed increase.

## NOTES

The American Farm Economics Association will hold its twenty-fifth Annual meeting at Chicago, December 26th to 29th inclusive. The American Economic Association and other national associations will meet at the same time. Dr. J. F. Booth, Economics Branch, will present a paper on Measures of Relief and Rehabilitation in Canada and Dr. W. C. Hopper will discuss marketing agreements. Dr. Wm. Allen, University of Saskatchewan, will discuss problems relating to debt adjustment.

The Canadian Society of Agricultural Economics held a local meeting in the C. S. T. A. Rooms, Ottawa, on the evening of November 28th. Dr. J. E. Lattimer, Macdonald College and Dr. T. W. Grindley, Dominion Bureau of Statistics, who recently attended the third International Conference of Agricultural Economists discussed agricultural conditions and policies in Europe. Dr. W. V. Longley, president of the Society, presided.

The organization of the Economics Branch of the Department of Agriculture, Ottawa, has recently been altered to provide for separate Divisions of Farm Management and Marketing. The activities of the Branch will continue to include other work in agricultural economics.

Mr. J. Coke, who since 1930 has acted as Assistant Commissioner of the Agricultural Economics Branch, will also assume the position of Chief, Division of Farm Management. Mr. Coke came to the Economics Branch from the Ontario Agricultural College where he had for some years been a member of the staff of the Economics Department.

Records from about 90 creamery operators were obtained in a recent survey of butter plants in the Prairie Provinces. Tabulation and analysis work on these records will be carried on this winter. In the conduct of this study the Provincial Departments of Agriculture, and the Economics Departments of the Universities of Manitoba and Alberta co-operated with the Dominion Department of Agriculture, Dairy and Economics Branches.

Dr. W. C. Hopper, who was for some years on the staff of the Dominion Experimental Farms but who left to take graduate work in Economics at Cornell University and later to accept a position at Washington, was recently appointed Chief of the Division of Marketing, Economics Branch, Ottawa. Dr. Hopper will also act as Secretary of the Dominion Marketing Board.

Mr. W. F. Chown recently joined the staff of the Economics Branch as Accountant Examiner. Mr. Chown is a graduate of Queens University. He was also for a time student at the Ontario Agricultural College and more recently obtained the degree of Chartered Accountant and admission to the Institute of Chartered Accountants. His work with the Department will be in the field of business and cost analysis.

Through a co-operative arrangement with the Dominion Marketing Board the staff of the Economics Branch will be used by the Board for research and general service when required. Assistance has already been given in connection with two schemes.

The provisional estimate of Canada's 1934 wheat crop is placed at 275,252,000 bushels by the Dominion Bureau of Statistics. Production for 1933 was 269,729,000 bushels. In the Prairie Provinces the provisional estimate of the 1934 wheat crop is 263,000,000 in comparison to a production of 250,841,000 in 1933.

# *The* ECONOMIC ANNALIST

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ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
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## INDEX VOLUME V, 1935

Act, Amendments to Canadian Farm Loan, 1935 .... 28
Agricultural Outlook Program, The .... 13
Agricultural Marketing Research .... 22
Assessment in Quebec, Farm .... 19

Butter, Cost of Manufacturing in the Prairie Provinces .... 35

Co-operation, The Eleventh American Institute of .... 46
Co-operative Associations in Canada, Acts of Incorporation of .... 3
Cost of Production Records and Their Use in Agricultural Price Determination .... 52
Credit Corporation, Subsidiary, Operated by Co-operative .... 46

Dairy Commission, New Zealand, Reports .... 8
Dairy Products, A Study of Consumption of, in Minneapolis, 1934, Bulletin 311, University of Minnesota, Agricultural Experimental Stations .... 57

Earnings, Factors Causing Variations in, Among Dairy Farmers in Southern Minnesota .... 63
Economic Research in Progress .... 44
Economic Situation, The .... 1
Economic Situation, The .... 17
Economic Situation, The .... 33
Economic Situation, The .... 49

Farm Assessment in Quebec .... 19
Farm Efficiency, A Corporation in .... 62
Farm Labour .... 10
Farm Loan Act, Canadian Amendments to the .... 28
Farm Revenues, Studies of Probable Net, for Principal Soil Types of Saskatchewan .... 30
Financial Statements .... 25
Financial Statements .... 42
Financial Statements .... 58
Fluid Milk, Economic Considerations in Marketing .... 15

Grading Vegetables, A Study of the Costs and Returns from .... 47

Marketing Fluid Milk, Economic Considerations in.................... 15
Marketing Research, Agricultural.................................... 22

New Zealand Dairy Commission Reports................................ 8
Notes................................................................ 16
Notes................................................................ 32
Notes................................................................ 48
Notes................................................................ 51
Notes................................................................ 64

Outlook Program, The Agricultural................................... 13

Price Determination, Agricultural, Cost of Production Records and Their Use in.............................................................. 52

United Fruit Companies of Nova Scotia, Limited, and Subsidiary Companies, The............................................................ 39

*The*

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## THE ECONOMIC SITUATION

PREPARED IN THE AGRICULTURAL ECONOMICS BRANCH, DEPARTMENT OF AGRICULTURE, OTTAWA, FROM BASIC DATA COLLECTED BY THE DOMINION BUREAU OF STATISTICS

Wholesale prices in Canada showed a gain of four and one-half points in 1934 compared with 1933. The increase in farm products was about eight points, being almost evenly divided between field products and animal products. In the month of January, wholesale prices in general advanced slightly. On the other hand the index or prices of farm products was a little lower. Recession in field products more than offset a small gain in prices of live stock products. It will be noted that retail prices advanced about one point in 1934 and the index stood at 78.9 in January, 1935.

***Employment.***—The increase in employment as at February 1 was less than normal. The index, therefore, receded to 99.9, compared with 101.2 as at January 1. It should be noted, however, that the seasonal recession at the beginning of January was less than normal and, therefore, an increase at the first of February of less than normal proportions is not considered to be a serious matter. Employment was more active at February 1, 1934, in all economic areas except the Maritime Provinces.

***Physical Volume of Business.***—The physical volume of business showed a substantial gain in January, the index rising to 96.5. Industrial production advanced from 91.0 in December to 96.3 in January. Mineral production and manufacturing were lower. Iron and steel production displayed considerable activity. Construction showed a substantial gain, contracts awarded rising from 31.5 to 92.8. Building permits were lower and cost of construction rose slightly. The total index was 71.3 compared with 31.2 in December. Electric power production increased. Agricultural marketings continued to decline, the index of grain marketings being 19.3. Live stock marketings on the other hand advanced from 67.3 to 81.5, an increase in shipments of cattle, calves, and sheep being responsible for the gain. The index of cold storage holdings rose from 135.7 to 143.7.

Provisional averages for the physical volume of business in 1934 show a substantial increase in business activity in 1934 compared with 1933. The total index was 94.2 during the past year while in 1933 it was 79.7. In fact the annual average index in 1934 was higher than in any year since 1929. The same was true of the index of industrial production. Agricultural marketings were much below those of 1933, however, the index dropping from 105.1 to 88.5. The index of grain marketings was 90.2, while that of live stock was 80.5. Cold storage holdings on the whole showed little change compared with 1933.

***Wages of Farm Help.***—The average monthly wage paid for male help during the summer season of 1934 is reported by the Agricultural Branch of the Dominion Bureau of Statistics to have been $18 compared with $17 in 1933, $19 in 1932 and $25 in 1931. The value of board supplied was estimated at $15 per month, 1934 to 1932, and at $18 in 1931. The estimated total of wages and board was, therefore, $33 during the past year, $32 in 1931, $34 in 1932 and $43 in 1931.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.9 | 67.6 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 126.1 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | 116.3 |
| Aug. | 72.3 | 61.6 | 60.7 | 63.1 | 78.7 | 99.0 | 99.8 | 172.8 | 114.7 |
| Sept. | 72.0 | 61.3 | 58.9 | 65.3 | 79.0 | 97.1 | 97.5 | 127.7 | 117.7 |
| Oct. | 71.4 | 60.9 | 55.3 | 70.4 | 79.3 | 95.8 | 95.3 | 61.2 | 128.8 |
| Nov. | 71.2 | 61.2 | 55.7 | 70.4 | 79.4 | 96.5 | 97.0 | 51.2 | 130.4 |
| Dec. | 71.2 | 61.6 | 56.0 | 70.9 | 79.0 | 92.4 | 91.0 | 36.0 | 135.7 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.9 | 96.5 | 96.3 | 30.6 | 143.7 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1932, p. 15.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1932, p. 32, and Monthly Mimeographs 1933 and 1934.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries, See Prices and price Indexes 1913-1928, pp. 181-185, 290-293. 1926=100.

Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs 1933-1934.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical volume of business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

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In 1934 the monthly wage of men employed on farms was highest in British Columbia where it averaged $43 and was lowest in Prince Edward Island and Quebec in which privinces the average wage was $30 per month.

Wages of men employed by the year averaged $171 in 1934, compared with $161 in 1933, $176 in 1932, and $240 in 1931. Allowances for board were $167, $161, $165, $199 respectively in the four years for which this comparison has been made. Thus the combined value of wages and board was $338 in 1934, $322 in 1933, $341 in 1932, and $439 in 1931. The total cost of year help in 1934 was, therefore, just about $100 less than in 1931.

# ACTS OF INCORPORATION OF CO-OPERATIVE ASSOCIATIONS IN CANADA

A. E. Richards[1]

One of the main objects of a co-operative association is to effect savings in the marketing of farm products or the purchasing of supplies. Its membership is usually confined to those who patronize the association. Other distinctive features are a limitation on the ownership of shares of capital stock, one vote per member, a moderate rate of return on capital within definite limits, and the disposition of any surplus, after reserves have been provided for, in proportion to patronage. By enacting statutory laws governing the establishment of co-operative associations governments have given recognition to the usefulness of this type of organization in the economic life of the community.

Records received by the Economics Branch from farmers' business organizations throughout Canada show that out of 809 associations reporting, 757 or 94% are incorporated. While a number of companies have received their charters by special acts, the great majority are incorporated under provincial co-operative associations acts. This large percentage of incorporated co-operative associations, which includes 2,000 local branches and represents over 3,000 places of business, is to be commended as it shows business foresight and a realization of the responsibilities of business enterprise on the part of co-operative leaders and officials.

The co-operative associations acts establish the legal status of an organization, determine its powers and limitations, and chart a general course of procedure to which an association incorporated under such acts must conform.

The application to organize a co-operative which is usually termed a memorandum of association must be signed by a responsible group of persons who are initiating the organization and deposited in the office of the Provincial Secretary, Registrar of Companies or Registrar of Co-operative Associations. The memorandum must state the name of the proposed association, designate the place of business, the objects of the association, the amount and kinds of capital stock and the value of shares.

The by-laws which must comply with the act are the common rules applying to a particular company which are adopted by the membership. These rules govern membership relations. Such matters as the bonding of officers and employees handling funds of the association, the setting of the fiscal year, provision for dividends if any, and provision for amendments are contained in the by-laws. For trading associations the inclusion of a clause dealing with the policy of the association in regard to cash sales or limitations upon credit is important.

If the memorandum and rules appear to the Registrar to comply with the act, he issues a certificate showing that the association is incorporated and a copy of this certificate with a statement of the objects of the association are published, for a stated period of time in the provincial Gazette. This certificate of incorporation is evidence that the requirements of the act in respect to incorporation have been complied with, and that the association is duly incorporated and authorized to carry on business.

Incorporation provides a number of safeguards to business enterprises which are made legal by statutory law. It creates a corporation separate and distinct from the membership which composes the association. It establishes the principle of limited liability. Thus, if the incorporated company by some misfortune falls into heavy debt, suit for the recovery of the debt must be brought against the company and not against the individual members which compose it except for the amount remaining unpaid on their membership fees or subscriptions for shares. Limited liability obtained through incorporation facilitates the raising of capital. Other desirable and protective features of incorporation are that real estate and other property may be owned and transferred in the name of the company and the property interest of its members is made definite and more easily transferable.

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## ESSENTIAL FEATURES OF PROVINCIAL CO-OPERATIVE ASSOCIATIONS ACTS

| | British Columbia<br>Co-operative Associations Act<br>R.S.B.C. 1924 | Alberta<br>Co-operative Marketing Associations Act<br>1924 | Alberta<br>Co-operative Associations Act<br>R.S.A. 1922 |
|---|---|---|---|
| 1. Formation | Five or more persons. Name must include word "Co-operative." Must not include word "Company or "Limited. | Ten or more persons. May be formed with or without capital. | Ten or more persons. Shall include word "Limited." |
| 2. Capital | Unlimited. Number of shares of such denomination as may be fixed by the memorandum. | Common and preference shares provided for. Memorandum must state number and value. | Unlimited. Memorandum must state number and denomination. |
| 3. Stock-holding privileges | Member may hold any number subject to provisions of rules. Must be paid for in cash. No share to be issued at a discount. | Limited per shareholder to one-twentieth of total number of ordinary shares. | Regulated by by-law. |
| 4. Redemption of shares | May redeem and re-issue its own shares. | May reedeem shares provided debts do not exceed 50% of assets. | May re-purchase shares. |
| 5. Limitation of dividend | 8%. | 8% on ordinary and preference shares. | No provision. |
| 6. Dividend to non-member patron. | Yes. | No provision. | No provision. |
| 7. Patronage refund. | Yes. | Yes. | No provision. |
| 8. Borrowing powers | May borrow and raise money and may issue debentures for same. | May borrow money and issue bonds and debentures. | May raise money by mortgage and other assurances. |
| 9. Eligibility for membership | Open to anyone who complies with rules of the association. | Limited to persons engaged in agricultural production. Tenant or landlord receiving share of crop as rental. | Open to anyone who complies with the rules of association and purchases a share. |
| 10. Liability of members | Individually limited to amount unpaid on shares. | Individually limited to amount unpaid on membership fee or share subscription. | Individually limited to amount unpaid on shares. |
| 11. Loans to members | May advance money to members on security of real and personal property. | Yes. | Yes. On security of real or personal property. |
| 12. Voting | One member, one vote. Voting by proxy allowed, subject to rules. | One member, one vote. Proxy and mail voting allowed, subject to rules. | One vote per member by ballot. |
| 13. Marketing contract | Yes. | Yes, term limited to 7 years. | |
| 14. Breach of contract | Liquidated damages may be fixed and association entitled to injunction privileges and to an order for specific performance. Penalty for procuring breach. | No provision. | |
| 15. Apportionment of surplus | Not less than 10% to be placed in reserve fund until fund reaches 30% of paid-up capital or as provided in the Act. | To proper reserves. | To any lawful purpose. |
| 16. Auditors | Appointed by association. | Auditor appointed must be approved by Minister. | Two or more persons appointed as the rules provide. |
| 17. Annual Report | Must be filed with Registrar. | Must be filed with Registrar and available to members. | Must be filed with Registrar and available to members. |
| 18. Registration fee | $10.00. | $5.00. | $5.00. |

| | Saskatchewan<br>Co-operative Marketing Associations Act<br>R.S.S. 1930 | Saskatchewan<br>Co-operative Associations Act<br>R.S.S. 1930 | Manitoba<br>Co-operative Corporations Act<br>1932 |
|---|---|---|---|
| 1. Formation | Ten or more persons. Words "Co-operative" "Marketing," "Association," "Limited," must form part of name. | Five or more persons. "Co-operative Association Limited" shall be the last three words of name. | Seven or more persons. Word "Co-operative" must be included in name and "Limited" if company has share capital. |
| 2. Capital | Unlimited. Memorandum must state amount of share capital and denomination of each share. | As set forth in memorandum. | Preference and ordinary shares provided for. |
| 3. Stock-holding privileges | Governed by by-laws. Shares can only be held by members. | No restriction, governed by rules. | Limited per shareholder to one-twentieth of total number of ordinary shares. |
| 4. Redemption of shares | May redeem shares provided debts do not exceed 50% of assets. | May redeem all but one share per member. | May redeem shares provided debts do not exceed 50% of assets. |
| 5. Limitation of dividend | 8%. | 6%, subject to by-law. | 7%. |
| 6. Dividend to non-member patron | No provision. | Yes. Credited on account of capital stock. | Credited on account of capital stock or membership fee. |
| 7. Patronage refund | Yes. | Yes. Remainder of surplus distributed in proportion to volume of business. | Yes. Remainder to be divided among members in proportion to volume of business. |
| 8. Borrowing powers | May borrow money and issue bonds and debentures. | In accordance with Companies Act. | In accordance with Companies Act. |
| 9. Eligibility for membership | Limited to persons engaged in agricultural production. Tenant or landlord receiving share of crops as rental. | Open to anyone who complies with rules of the association. | Shall be producers of commodity proposed to be marketed in marketing association. |
| 10. Liability of members | Individually limited to amount unpaid on membership fee or share subscription or promissory note. | Limited to amount unpaid on shares. Lien on members share permitted for collection of debt. | Individually limited to amount unpaid on share subscription or membership fee. |
| 11. Loans to members | May advance money to members on agreed terms. | In accordance with Companies Act. | No provision. |
| 12. Voting | One member, one vote. May vote by mail. No proxy voting allowed. | One member, one vote. No proxy voting allowed. | One member, one vote. No voting by proxy except in case of Branch representatives. |
| 13. Marketing contract | Yes, term limited to 7 years. | | Yes. |
| 14. Breach of contract | Liquidated damages may be collected. Penalty for inducing breach of contract $50.00 to $200.00. | | Entitled to injunction and specific performance. |
| 15. Apportionment of surplus | To proper reserves. | 10% to be placed in reserve until fund equals 30% of paid-up capital stock. | 10% to be placed in reserve until fund equals 30% of paid-up capital stock. |
| 16. Auditors | Submit accounts for audit by chartered accountant. | Accounts must be audited. | Regulated by memorandum of agreement. |
| 17. Annual Report | Must be made to Registrar and available to members. | Must be made to Registrar and available to members. | Must be filed with Provincial Secretary. |
| 18. Registration fee | $10.00. | $1.00. | $12.50 up. |

| | Ontario<br>Co-operative Corporations Act<br>R.S.O. 1927 | Quebec<br>Co-operative Agricultural Associations Act<br>R.S. 1922 | Nova Scotia<br>Fruit, Produce and Warehouse Assn's. Act<br>R.S.N.S. 1923 |
|---|---|---|---|
| 1. Formation | Five or more persons. Word "Co-operative must be part of name. | Twenty-five or more persons known as "shareholder-producers. Affiliated producers pay $2.00 annual fee. Cannot attend general meetings or vote. | Five or more persons. "Limited, must be included as last word in name. |
| 2. Capital | May be in form of share capital or capital notes from members, payable on demand. | Preference and ordinary shares. Amount of each $10.00. Holders of preferred shares cannot attend or vote at general meetings. | Not less than $1,000.00 of which one-half shall be subscribed. Capital stock increased by two-thirds vote. |
| 3. Stock-holding privileges | No restriction. | Maximum holding per member—ten shares. Minimum holding—five shares. | No limitation, governed by rules. |
| 4. Redemption of shares | No provision. | Preferred shares only, redeemable. | No provision. |
| 5. Limitation of dividend | 8% per annum. | 7% limit on preferred shares. | No limitation, governed by rules. |
| 6. Dividend to non-member patron | | No provision. | No provision. |
| 7. Patronage refund | Yes. In proportion to volume of business. To non-members at such proportionate rate as determined by by-laws. | | |
| 8. Borrowing powers | In accordance with Companies Act. | Limited to an amount equal to four times aggregate amount of subscribed shares and reserve fund. | May borrow, execute mortgages and issue debentures, and pledge debentures as security for loans. |
| 9. Eligibility for membership | No restriction. | Must be producers. | No restriction. |
| 10. Liability of members | Limited to amount of unpaid portion of capital note, or share. | Limited to amount of holding. | Limited to amount unpaid on shares. |
| 11. Loans to members | Prohibited by Companies Act. | No provision. | No provision. |
| 12. Voting | One member, one vote. No proxy voting except in case of Branch representatives. | One vote per member. No proxy voting. | One vote for each share held. |
| 13. Marketing contract | No provision. | Provided for in by-laws. | Has power to regulate sale of members product. |
| 14. Breach of contract | No provision. | | Penalties can be collected. |
| 15. Apportionment of surplus | Up to 20% may be set aside annually in reserve and 5% in educational fund. | To proper reserves and remainder credited to shareholder-producers on account, on preferred shares. | May be placed in reserve fund. |
| 16. Auditors | Appointed by association. | Accounts must be audited by an auditor. | Governed by by-laws. |
| 17. Annual Report | Must be filed with Provincial Secretary. | Copy must be sent to Minister of Agriculture. | As provided in by-laws. |
| 18. Registration fee | Subject to Order-in-Council. | | No fee. |

As the result of incorporation, serious responsibilities devolve upon the directors as trustees of the shareholders. They should inform themselves on the responsibilities which they assume. On the part of the shareholders or members, due discretion should be exercised to assure the election of capable men to act as directors.

It is impossible in a brief review to discuss separately the co-operative associations acts of the provinces. They are set out in the foregoing pages under headings for comparison. It will be noted that certain underlying principles are common to all although the definition of powers is much more explicit and their application permits a larger scope of activity under the acts of certain provinces than of others.

Since all of the acts are designed to serve the same purpose, greater uniformity of provisions and wording of clauses should clarify interprovincial relations and would facilitate any Dominion-wide undertaking of a co-operative character. In the Maritime Provinces, acts have been framed to suit certain commodity groups and do not permit of general application. The Co-operative Union of Canada which represents a large body of consumer co-operative activity and opinion and representative co-operative marketing groups in the Dominion have given consideration to this problem and have urged the implementing of Dominion legislation.

In certain provinces the existing acts do not meet the needs of consumer co-operatives to the same extent as marketing associations and may account in some degree for the lack of progress in this type of co-operative activity. Records in the Economics Branch show that at the present time, in terms of places of business and total membership, marketing organizations outnumber purchasing associations of farmers by 10 to 1. In the matter of volume of business, marketing associations transact twenty times the business handled by purchasing agencies. Membership in the co-operative marketing associations which reported to the Economics Branch numbered 318,597 persons as compared with 30,546 members in purchasing organizations. The total annual business amounted to $138,025,004 for the marketing companies compared with $7,278,950 for the purchasing group.

In view of the steady growth of co-operative activity in Canada, consideration may be given to a number of features generally regarded as fundamental in a co-operative act. These are listed below without discussion.

1. Membership to be confined to or composed largely of producers or persons who expect to patronize the association.
2. The sale of capital stock should be confined to producers or persons who expect to contribute to the business of the association unless it is necessary to finance by public subscription in which case stock sold to persons other than users of the services of the association should be of non-voting type.
3. Voting power and control of the organization must be retained by those who use the services of the organization.
4. Some limitation on the amount of stock which a person may own.
5. A limitation of the rate of dividends on stock.
6. Provision for crediting patronage refunds to non-members and members as payments on new or additional stock.
7. Transfer of shares subject to the approval of directors.
8. Limitation of voting to "one-man, one-vote" or some other manner of voting which gives substantially this effect. (Voting on basis of business done during preceding fiscal years is worthy of consideration.
9. Limitation of individual liability for debts of the association.
10. Provision for the use of a contract if desired by members.
11. Statement of method by which dissolution may be effected.
12. Provisions that after all expenses are provided for out of gross income, the balance for distribution may be apportioned among the following:—
    (*a*) An adequate reserve.
    (*b*) Interest on invested capital.

(*c*) An educational fund (optional).

(*d*) Balance distributed among eligible patrons of the association in proportion to volume of business contributed.

13. A limitation on the amount of business which may be done with non-members and non-producers.

14. Outline of duties and responsibilities of directors.

15. A restriction of the use of the term "co-operative" in names of associations.

16. Requirement that an annual return or statement of business, membership, etc., be filed with the registrar of such associations.

17. Provision for audit of books and accounts by a qualified person.

## NEW ZEALAND DAIRY INDUSTRY COMMISSION REPORTS

The report of the New Zealand Dairy Industry Commission is of considerable interest to Canadian readers. This Commission was appointed by the Governor General under authoriity of the Dairy Industry Act of 1908 and the Dairy Export Control Act 1923, and was given the task of finding a solution to the crisis which has arisen in the industry by reason of the current high cost of production of butterfat and a reduction in price obtainable overseas for butter and cheese produced in New Zealand. The report submitted to the Governor General on September 30, 1934 reviews in detail the problems confronting the New Zealand dairy industry. Some of the significant facts are given below. Emphasis is placed upon the sensitiveness of the economic structure of New Zealand to external conditions. This arises from the fact that the greater part of the national income must be obtained from the sale of a few kinds of products in export markets.

"The economic problems which confront New Zealand at the present time and which are of particular moment to the dairy industry arise out of the changes in the nature of international trade that have occurred in post-war years. The most notable feature of these changes has been the rapid growth of policies of national self-sufficiency in practically all European countries. Particularly in recent years have restrictive trade practices increased both in scope and intensity, with the result that exporting industries have found it more and more difficult either to hold markets previously established or to penetrate new markets.

The extreme range of variability in cost of production between districts is somewhat over one pence per pound of butterfat with an average cost of 4.093 pence per pound for the 550 farms covered by an investigation conducted by the Department of Agriculture in the main dairy districts of the North Island. The farms selected for study were regarded as being above average in efficiency and were chosen because the owners were able to provide reasonably accurate records of receipts and expenditures. The Commission found that despite low costs of production (exclusive of interest) that the present output which was considered to be far short of the potential supply was at present incapable of being marketed at remunerative prices to the farmer.

"Looking at the situation from the farmers' point of view, we are at once impressed by his achievements in increasing production, and by the fact that his increased output has brought him no gain." Between 1920 and 1934, the average butterfat production per cow increased by approximately 68.7 pounds. Total imports of cheese to the United Kingdom market have been fairly uniform since 1925 approximating 150,000 tons. New Zealand's exports have increased but in view of the fact that total imports have not increased, it is considered probable that the saturation point may be approaching or that it actually has been reached. This is emphasized by the fact that there has been some decrease in the per capita consumption of cheese and until the situation is clarified, it is not considered to be wise to further develop export of cheese.

Increased consumption of butter in Great Britain has been obtained to some extent through a gross increase in fat consumption but mainly at the expense of margerine. Recently, the rate of displacement has been less rapid despite reductions in the price of butter.

Analysis of butter stocks shows that increasing difficulty is being experienced in moving butter rapidly in this market. The estimated stocks of butter in London, including stocks in private and provincial stores and in steamers not discharged as at 1st October were as follows:— 1932—20,000 tons, 1933—26,000 tons, and 1934—37,000 tons. There is no information as to the source of supply of this stored butter, but it is estimated that 40% of the 1934 quantity is of foreign origin, principally from the Baltic States and Russia; 40% is New Zealand butter and the remaining Australian and Irish."

The commission anticipates that the Government of the United Kingdom will impose a limit on imports of dairy produce with or without the levying of differential duties, and will, in fixing quotas within that limit, have regard to the relative claims of Empire and foreign countries. Should quantitative restrictions be placed on the export of dairy products, possibilities of controlling the rate of production may have to be considered. The report states that any subsidy which is virtually a sustenance payment would be viewed with disfavour by the United Kingdom. The risk involved in abandoning at this date our policy of unsubsidized export is too serious to be undertaken on behalf of a proposal which has no outstanding merits of its own."

"It is recommended that control of the industry be entrusted to a new Dairy Produce Control Board. This Board should in addition to its other activities control the local marketing of butter and cheese. Envisaging the necessities of the industry in regard to new markets for surplus produce, and the measures of control of production and marketing likely to become necessary to meet the present and future problems of the industry, as well as control of the local marketing of butter and cheese, to which reference has been made elsewhere in the report, the Commission believes that the State must of necessity appoint some members of the Board. The proposal that farm and factory instruction should be the responsibility of the newly constituted Dairy-produce Control Board is an additional reason for the State interest in the appointment of the Board. For these reasons, the Commission has decided to recommend for the Board a constitution which it is considered gives recognition and fair balance to the interests both of the State and the producers.

It is, therefore, recommended that the Dairy-produce Control Board be reconstituted and given wider powers, embracing control of volume and quality of the production, processing, and manufacture of dairy-produce and control of local marketing as well as export marketing."

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The Bureau of Agricultural Economics, Washington, D.C., recently released a report on direct marketing of hogs. A press release announcing the report states: "Direct marketing has not lowered the general level of hog prices, nor has it operated to reduce returns to producers. The sharp decline in hog prices in recent years was due to the drastic reduction in consumer income associated with the decline in the general price level, and to reduced foreign demand for American hog products. It has not reduced competition for hogs. There are no fixed price differences between public markets and interior points. A rise or decline in hog prices is as likely to occur first at interior points as at public markets. Direct marketing has not increased marketing costs nor widened the margins between prices of hogs and prices of hog products. Nor has it deprived public markets of supplies of the various qualities of hogs sufficient for registering prices for the different grades. In general, the study shows that direct marketing has not operated to the disadvantage of hog producers. It does point out, however, that direct marketing has substantially reduced the number of hogs received for sale at public markets, which has adversely affected the interests of stockyard operators and market agencies at some public markets."

## FARM LABOUR

E. G. Grest[1]

The family size of farm is often referred to as the best size of farm with which to build up a perment agriculture in Western Canada. This particular size of farm is difficult to translate into a definite number of acres of land in any area as the size of family varies considerably from farm to farm and even varies a great deal in size through one generation. The majority of farms in Western Canada approach very closely to a family business; for example, during the year 1930 in five main areas in Alberta and Saskatchewan 82.7% of all the farm labour used on 573 farms was supplied by the farm operator and his family.[2]

***Amount and Cost of Labour.***—The amount of the different types of hired and family labour used on these farms and the cash value including cash expenditure for board are shown in Table 1. The average cost of board was $7.46 per month. This was included in the total cash value or cost of labour and the cash value of labour per month shown in Table 1. The non-cash cost of living is the amount of farm garden produce, farm supplied meats, milk, eggs, and dwelling accommodation used by the whole labour force. The average cost of man labour for these farms in 1930 was 35.2 cents per hour or $57 per month.

Table 1.—Cost of hired and family labour used on 537 farms in Saskatchewan and Alberta during the year ending April 1, 1931

| | Months of labour | | Cash cost of labour | | Cash cost per month |
|---|---|---|---|---|---|
| | Total | Per farm | Total | Per farm | |
| Hired labour: | | | | | |
| Year help | 490.0 | 0.91 | $20,080 | $37 | $41 |
| Month help | 935.8 | 1.75 | 46,389 | 86 | 50 |
| Day help | 565.5 | 1.05 | 50,313 | 94 | 89 |
| Total hired labour | 1,991.3 | 3.71 | $116,782 | $217 | $59 |
| Family labour: | | | | | |
| Farm operator | 6,184.8 | 11.52 | $324,542 | $605 | $52 |
| Wife of operator | 302.3 | 0.56 | 9,631 | 18 | 32 |
| Operator's sons | 2,680.9 | 4.99 | 99,072 | 184 | 37 |
| Other unpaid labour | 362.7 | 0.68 | 14,749 | 27 | 41 |
| Total family labour | 9,530.7 | 17.75 | $447,994 | $834 | $47 |
| Total hired and family labour | 11,522.0 | 21.46 | $564,776 | $1,051 | $49 |
| Total non-cash living | — | — | 90,017 | 168 | 8 |
| Total value of labour | — | — | $654,793 | $1,219 | $57 |
| Total hours man labour | — | — | 1,816,419 | 3,466 | — |
| Cost per hour in cents | — | — | 35.2 | — | — |
| Family labour in per cent of total | 82.7 | — | 79.3 | — | — |

Since the family supplied slightly over four-fifths of all the farm labour on these farms in 1930 the problem was to find sufficient useful employment for this labour throughout the year. Family labour did not vary greatly with the seasons of the year and in most cases was available for the full 12 months. The farmer usually does not pay out a definite cash wage for family labour, but food, clothing and incidentals must be provided and consideration must also be given to the fact that the farmer's son working on his father's farm is investing his time in the farm business and is entitled to a portion of the farm or to financial assistance when starting in business for himself. In view of this fact a charge for family labour is considered a legitimate cost. Moreover, in order to place all farms on a comparable basis, family labour must be charged against the business. A good farm operator will not be more wasteful of family labour than he would be of seasonal hired help but it is very frequently the case that family labour is available in excess of farm needs. Such a situation might be overcome by increasing the size of the farm or by modifying the type of business so as to provide employment for the additional help throughout the year.

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[1] Formerly Field Assistant, Agricultural Economics Branch, Department of Agriculture, Ottawa.

[2] Study conducted in co-operation with the Canadian Pioneer Problems Committee, 1931.

***Factors Affecting the Cost per Hour of Man Labour.***—The importance of obtaining a maximum number of hours of work per man per year is demonstrated in Table 2. There is a very definite decrease in the cost per hour of man labour with an increase of hours worked per year. This is shown by a rate of 47.6 cents per hour for the group working less than 1,500 hours per man per year and a labour cost of 26.3 cents per hour for those working 2,500 hours and over per year.

Table 2.—Influence of hours worked per man equivalent and time spent caring for live stock on the cost of labour per hour on 537 farms in Saskatchewan and Alberta 1930-31

| Per cent of hours spent caring for live stock | Hours worked per man equivalent | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 1,500 | | 1,500–1,999 | | 2,000–2,499 | | 2,500 and over | | All farms | |
| | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour |
| | | (cts.) | | (cts.) | | (cts.) | | (cts.) | | (cts.) |
| Under 30% | 40 | 58.3 | 28 | 41.7 | 19 | 38.1 | 6 | 26.0 | 93 | 43.4 |
| 30–39% | 20 | 44.6 | 42 | 39.0 | 38 | 36.8 | 26 | 30.0 | 126 | 36.8 |
| 40–49% | 34 | 45.3 | 44 | 37.5 | 52 | 29.8 | 37 | 25.7 | 167 | 33.1 |
| 50% and over | 26 | 39.9 | 44 | 35.9 | 39 | 28.0 | 42 | 24.3 | 151 | 30.6 |
| All farms | 120 | 47.6 | 158 | 38.3 | 148 | 32.6 | 111 | 26.3 | 537 | 35.2 |

The data were also sorted according to the percentage of labour spent on caring for live stock as well as according to the percentage of field work accomplished by horses. As the percentage of the total hours spent on choring increased, the cost of man labour per hour decreased and hours worked per man increased. The decrease in labour cost per hour is not entirely due to the increase in hours worked per man but probably one-half could be attributed to this factor. The inclusion of a certain amount of live stock in the farm business assists in making use of family labour throughout the year, and hired labour can be obtained for short periods such as during harvesting when more labour is required than can normally be supplied by the operator and his family.

On farms on which only a portion of the field work is done with horses and the balance with tractors it would be expected that the percentage of time spent in caring for all live stock, including horses, would be less than on farms on which all of the field work is done with horses. This fact is brought out in Table 3. The decrease in time spent caring for live stock must be almost entirely due to the fact that less time was spent in caring for horses, as the returns from live stock and live stock products sold and consumed on the farm per man equivalent is practically the same in each group with the exception of the group of farms in which 99 to 67% of the field work was done by horses. The decrease in hours worked per man with the increased use of the tractor for field work is almost negligible. The use of the tractor is therefore responsible for only a small share of the increase in the rate for man labour.

TABLE 3.—INFLUENCE OF HOURS WORKED PER MAN EQUIVALENT AND PERCENTAGE OF FIELD WORK HANDLED BY HORSES ON THE COST OF LABOUR PER HOUR ON 537 FARMS IN SASKATCHEWAN AND ALBERTA 1930-31

| Per cent of field work handled by horses | Hours worked per man equivalent | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Under 1,500 | | 1,500–1,999 | | 2,000–2,499 | | 2,500 and over | | All farms | |
| | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour | Number of farms | Labour rate per hour |
| | | (cts.) | | (cts.) | | (cts.) | | (cts.) | | (cts.) |
| 100% | 68 | 42.9 | 82 | 35.7 | 77 | 29.2 | 69 | 24.2 | 296 | 32.0 |
| 99–67% | 9 | 48.6 | 23 | 39.5 | 20 | 33.0 | 13 | 27.3 | 65 | 35.6 |
| 66–34% | 15 | 47.0 | 27 | 39.2 | 29 | 34.5 | 15 | 27.7 | 86 | 36.3 |
| 33–0% | 28 | 62.7 | 26 | 43.9 | 22 | 37.6 | 14 | 33.2 | 90 | 43.3 |
| All farms | 120 | 47.6 | 158 | 38.3 | 148 | 32.6 | 111 | 26.3 | 537 | 35.2 |

The inclusion of live stock on the tractor-operated farms should give nearly as good a distribution of labour requirements throughout the year as on the horse-operated farms because the live stock kept would require considerable attention during the winter while horses on farms as a rule are running out during the winter and receive little attention. Therefore, the increased cost of labour per hour must be due to the better trained class of labour required on the tractor-operated farms. On account of the higher class of labour used, it naturally follows that a representative sample of farm operators would estimate labour at a higher monthly rate which results in increasing the cost per hour.

TABLE 4.—RELATIONSHIP OF ACRES OF CROPLAND TO PERCENTAGE OF HOURS SPENT CHORING AND HOURS PER MAN EQUIVALENT —537 FARMS IN SASKATCHEWAN AND ALBERTA 1930-31

| Per cent of hours spent caring for live stock | Hours per man equivalent | Live stock returns per man equivalent | Per cent hours spent choring | Size of farm (Acres of cropland) |
|---|---|---|---|---|
| Under 30% | 1,725 | $160 | 23.3 | 622 |
| 30–39% | 1,949 | 284 | 35.2 | 570 |
| 40–49% | 1,956 | 335 | 44.3 | 446 |
| 50% and over | 2,071 | 451 | 56.6 | 306 |
| All farms | 1,939 | 317 | 41.6 | 466 |

From data on labour costs not presented in the tables it was found that the cost of man labour per hour increased more or less regularly as the farms increased in size. This was probably due to a better trained class of labour being required on the larger farms. On the larger farms the family labour and the operator's labour in particular was usually estimated at higher rates per month than on smaller farms. The average size of farm is shown in the final columns of Table 4. The variation in labour rates in the first section of Table 2 which cannot be accounted for by the difference in hours worked per man, was probably due to the factors just mentioned which cause the labour rate to rise with increases in the size of farm. The inclusion of farms in the sample with comparatively large acreage was partly responsible for the higher cost of labour per hour on farms on which all the work was done by horses compared with those which had 99 to 67% of the field work done by horses. The smaller farms show higher percentages of man labour spent on choring.

## THE AGRICULTURAL OUTLOOK PROGRAMME

Considerable interest was arroused throughout Canada during 1934 by the appearance of a publication entitled *The Agricultural Situation.* That interest has been further stimulated by the release early this year of the second of such reviews under the revised title, *The Agricultural Situation and Outlook, 1935.* Since enquiries have been made concerning this undertaking, it was thought that some information on the subject might be of value to readers of the *Economic Annalist,* particularly those outside Canada. Many will be familiar with the programme in the United States; to them the method of conducting the undertaking in Canada may be of interest.

***Object.***—First, with regard of the object of such an undertaking, it should be noted that, while we have for years had well organized intelligence and statistical services, and in some instances periodic reviews of the agricultural situation, we have not had an annual appraisal of the industry as a whole; we have had nothing that corresponds to the inventory that any well-run business is accustomed to. The object, then, of such a programme is to fill a gap in our service and in doing so, to supplement and co-ordinate, rather than displace, existing activities.

The recipients of such a service are, of course, the farmers and others interested in agriculture. For the farmer it is hoped the Outlook report will provide information at a time when it can be used in making plans for crop and live stock production for the ensuing year or period of years. To others its principal value will be found in the provision of a comprehensive review of the status of an industry in which most of us have an interest, direct or indirect.

***Advisory Council Sponsors.***—The work in this country is sponsored by the National Advisory Council on Agricultural Services. This body represents all Departments, Universities, Colleges, and Research bodies interested in the development of Agriculture. The council in 1932, and again in 1933, at general meetings heard recommendations from subcommittees that an agricultural outlook program be initiated. In response to such requests the executive of the Council in the fall of 1933 appointed a committee, two of whom represent the Departments of Agriculture and Trade and Commerce in the Dominion Government and the third the provincial agricultural institutions, to arrange for such a service.

The constitution of this "Agricultural Outlook Committee" is significant, for it recognizes the need for a co-operative approach to the conduct of this particular undertaking. The resulting programme is not the product of a single department or institution. The principle thus recognized was further emphasized by the Committee on the appointment of subcommittees. The latter in turn are made up of officials of the several departments at Ottawa that are in a position to contribute information or assistance. Moreover, the subcommittees are composed of men representing, as far as possible, the different divisions of agricultural activity. Thus on the 16 committees that prepared the 1935 report the Departments of Agriculture, Trade and Commerce, External Affairs, and Finance are represented, and in addition each committee has been selected so as to ensure that all phases of the production and marketing problem are adequately presented; the Experimental Farms Branch, the National Research Council, the Markets Divisions of the Department of Agriculture, together with the Commercial Intelligence Service, The Dominion Bureau of Statistics, the Entomological Branch, and the Economics Branch are represented. In addition, where an appreciation of the problem confronting agriculture depends upon a knowledge of the internal financial situation or upon information concerning developments in other countries, the appropriate departments are represented. Editorial and publicity committees insure satisfactory presentation and distribution of data.

***Scope and Procedure.***—The Outlook Committee in consultation with subcommittees decided that the report should summarize the general agricultural situation and outlook—domestic, empire and foreign—and then deal with specific agricultural commodities. Subcommittees have been selected to give effect to this policy. The trend of business activity, employment, and international trade is considered in dealing with commodities and is featured in the general introductory sections.

The procedure followed has been to request the special committees to prepare reports on the subjects or commodities assigned them. The members of each committee, who by virtue of their positions in the respective services are in possession of, or have access to, the best available information on the matter they are to deal with, bring such information to the committee. Where additional data are required the departments are requested to provide them. Reports, insofar as possible are uniform in type of content—each is intended to summarize production, distribution, storage holdings, prices, competition, and demand. Committees meet with one another when the matters dealt with are inter-related.

About a month has been allowed for the preparation of reports following which a general conference has been called. To this conference the provinces have been invited to send representatives. This year the reports were sent, in preliminary form, to provincial Departments of Agriculture for consideration prior to the Outlook Conference.

At this general conference each committee report is presented and analyzed. There is thus brought to bear upon the final report, not only the best efforts of those immediately concerned with the subject or commodity under consideration but also the opinions of those concerned with other phases of agriculture. The completed report thus represents the considered opinion of persons whose work brings them into intimate contact with all phases of the matter under review.

Passing reference should be made to the value of this final conference to those engaged in agricultural work. Offering as it does a chance to hear the whole situation reviewed it has given to the specialized worker an opportunity that has heretofore been lacking. If and when provincial representation at this gathering is more general, it should provide an opportunity for dealing with many matters related to agricultural development.

***Printing and Publicity.***—The final report has been printed in both English and French and widely distributed. In addition the press has been provided with summarized statements dealing with each phase of the report and these have been widely used. The co-operation of the Publications Branch of the Departments of Agriculture and the Publicity Division of the Department of Trade and Commerce has been most helpful in this connection. A National broadcast has been arranged each year with the assistance of the Canadian Radio Commission in which the "highlights" of the report were reviewed by the Deputy Minister of Agriculture, Dr. H. Barton.

***Extension Programme.***—In the United States, where an Outlook report has been prepared for some years, the national undertaking has been supplemented by state reports and by a well organized programme of extension work. In Canada only two provinces, Nova Scotia and Saskatchewan, have so far undertaken such work and in these instances the work antedated the federal programme. In Nova Scotia the agricultural representative service has used both provincial and federal Outlook reports extensively, but in other provinces there appears to have been little concerted effort to popularize such information. The National Outlook Committee appreciates that it has some responsibility in this connection. An effort has been made this year to meet the situation in a measure. Supplementary data were prepared for the use of extension workers and an effort was made in a small way to demonstrate the value of Outlook information at farmers' meetings. This phase of the service should be developed, but maximum results are not to be expected until provincial reports are prepared and the whole programme, federal and provincial, is co-ordinated.

***Summary.***—The response to this programme has been very gratifying. The Agricultural Journals and other press have made extensive use of the material furnished and the demand from farmers and business leaders for copies of the report has been very satisfactory. Its place in Canadian Agriculture will likely be one of increasing importance.

## ECONOMIC LITERATURE

MORTENSEN, W. P. Economic Considerations in Marketing Fluid Milk. Research Bulletin 125, Agricultural Experiment Station, University Wisconsin, Madison, Wisconsin.

This 56-page bulletin is divided into five sections: Market Price Plans and Policies, Distributors' Margins, Analysis of Distributor Costs and Profits, Public Control of Milk Distribution, and Competition of Evaporated Milk with Fresh Milk.

Under normal competitive conditions, the prices of the various types of milk products tend to move up and down in unison. Fluid milk prices while moving in sympathy are on a higher plain due in part to protection of various kinds which the producers of fluid milk have provided for themselves. During the depression period, the comparatively attractive fluid milk price induced fluid milk producers to increase their output and producers outside the fluid milk zone to break down the barriers which have kept them out of this field. The two factors together have produced a condition of heavy surplus on the fluid milk market with resultant chaos.

*Analysis of Returns and Costs.*—In comparing the conditions prior to the depression 1927-1929 with the depression years 1931-33, it is revealed that in six Wisconsin cities that "the distributors' margin was reduced only 0.2 cents per quart between these two periods, while the farmer's price was reduced 1.7 cents. The total reduction in the retail price during the period was 1.9 cents per quart. This pronounced decrease in price paid farmers compared with the reduction of distributors' margin, is apparently typical during periods of rapidly falling prices." Concerning distributors' profits, the writer states, "It is noteworthy that if profits of these companies had been cut in half for the six-year period (which would have left about the equivalent of a normal interest rate on money invested) it would have meant a saving of about one-fifth cent per quart sold at retail. While the importance of this is not to be neglected, it is evident that if any very substantial reduction in distributors' margins is to be achieved, other and larger savings must also be effected. These must come as the result of the elimination of inefficiencies and of unnecessary costs." An analysis of distribution of returns to farmers shipping to condenseries is summed up: "From this, it appears that farmers suffered doubly: First, by low prices paid by consumers; Second, by the fact that the farmers did not continue to obtain the same proportion of the consumer's dollar as they received before the fall in prices."

The relative prices of whole milk and evaporated milk have so moved during the past few years as to increase the per capita consumption of evaporated milk. This is a distinct blow to the fluid milk business as the evaporated product readily replaces the bottled milk when price differentials warrant.

Relatively high prices for fluid milk encourage substitution, reduce consumption, attract increased product to that market, induce competition from fields regularly outside the fluid milk production zones, and as the author states, "If producers of city milk lose sight of the fact that they are inseparably a part of the whole dairy industry they are bound to invite difficulty. A price structure built on quicksand is too insecure to serve dairymen properly who are in business on the basis of a long period."

Excessive operating costs in milk distribution can largely be traced to (1) undercapacity operation and (2) duplication of effort and equipment. To meet this situation, producers and consumers must choose between that system of milk distribution which operates with unnecessarily large concerns providing abundant service and that of a limited number of organizations under some kind of public control.

Public control may be of three types: (1) Public control with private ownership (under the A.A.A., this method is in operation with some degree of success in several states); (2) Public control with limited private ownership; and (3) Public ownership. Numbers 2 and 3 are considered to be suggestions for a permanent rather than a temporary control programme. It is believed that a programme such as will give farmers an opportunity to bargain with distributors directly or through strongly organized agencies would give as high a farmers' price as local and general conditions warrant.

## NOTES

The First Annual Report of the Pigs Marketing Board for Northern Ireland has been issued recently. It is interesting to note the early decision of the Board "to start investigations and the collection of information on which to build up their policy; that any drastic immediate action was undesirable, and that for the moment no change in marketing methods should be made, but that dead pig prices should be fixed in negotiation with the Bacon Marketing Board (who represented the curers). This decision was taken with a view to ridding the industry of the curse of pig price variations from week to week and to enable producers to take advantage of the higher pork price which curers could afford to pay as a result of the reduction of bacon imports."

Mr. A. Leitch, formerly Professor of Agricultural Economics, Ontario Agricultural College, Guelph, and more recently associated with the development of the tobacco industry in Norfolk County, Ontario, has been appointed Chairman of the Dominion Marketing Board. He will, however, retain some connections with the tobacco business. Dr. H. Barton, who was formerly chairman of the Board, has asked to be released from the duties of this position as the duties of the Deputy Minister of Agriculture are onerous and the responsibilities which are attached to the chairmanship of the Board are rapidly increasing.

The annual index of prices of agricultural produce in Great Britain (1911-13 = 100) was 114 in 1934 compared with 107 in 1933. If allowances are made for emergency payments under the Wheat Act of 1932 and the Cattle Industry Act of 1934, the index would be 119. The chief factors responsible for the rise in the index were higher prices for fat sheep, fat pigs, milk, wool, hay, potatoes, barley, and oats. Lower prices were recorded for fat cattle, wheat, dairy produce and fruit.

Mr. H. R. Hare, formerly in the Department of Animal Husbandry, University of British Columbia, has joined the staff of the Economics Branch of the Department of Agriculture, Ottawa. While on the staff of the University of British Columbia, Mr. Hare conducted a Dairy Farm Management study based upon 180 farms. Data were obtained over an eleven year period, 1921-31.

The monthly letter of the Canadian Bank of Commerce for December emphasizes the importance of farm purchasing power. A new index of Canadian farm purchasing power has been constructed which records the fluctuations quarter by quarter during the past eight years. In 1934 the index was 64.64 at the end of the first quarter, 65.27 at the end of the second quarter, and 67.51 at the close of the third quarter.

Creamery butter in storage in Canada February 1, 1935, amounted to 22,344,540 pounds as compared with 31,543,203 pounds as of January 1, and a five-year average of 16,072,031 pounds. While the stocks showed a decrease of 29.7% during January, holdings on February 1 were 52.7% above those on hand at the same date in 1934.

Total expenditures of the United States Agricultural Adjustment Administration from May 12, 1933, to December 31, 1934, were reported to be $773,983,535 of which $527,501,795 represent rental and benefit payments and $170,296,958 for surplus removal operations. The balance represented the cost of administration. Processing taxes have returned $640,871,403.

Mr. S. C. Hudson, Economics Branch, Department of Agriculture, Ottawa, has been granted leave of absence for the purpose of continuing work in the Graduate School at Cornell University.

JUN

# The
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

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## THE ECONOMIC SITUATION

The index of wholesale prices in Canada advanced from 72.0 in March to 72.5 in April. The vegetable products index rose from 67.5 to 69.4. Non-ferrous metals and their products showed a similar gain from 65.2 to 67.9. There was also a slight advance in the index of prices of wood, wood products and paper. These three factors more than offset losses in other groups and resulted in a rise of a half point in the total index.

Wholesale price levels in other countries within the sterling and gold "blocs" declined moderately during the first quarter of 1935 according to a statement recently issued by the Internal Trade Branch of the Dominion Bureau of Statistics.

Retail prices in Canada were slightly lower than in March, the index receding to 78.8 because of a decline in retail prices of foods.

***Physical Volume of Business.***—The index of the physical volume of business regained much of the loss recorded in March, the April index being 98.3 compared with 94.2 in the previous month. Industrial production was also higher in April, rising to 97.7. Mineral production advanced from 143.4 to 156.4. Exports of nickel were lower but shipments of gold, silver and copper were substantially higher. There was also a marked increase in the production of lead.

In the manufacturing group increased activity was quite marked and the index rose from 86.8 in March to 94.0 in April. Flour production advanced from 72.5 to 82.6. Manufacture of sugar, exports of cheese and canned salmon were well above the volume reported in March.

The forestry index also showed a gain largely because of increased exports of newsprint, wood pulp and shingles. The index of iron and steel production showed a moderate gain, rising from 90.2 to 92.2. Automobile production was slightly below the peak recorded in March. Construction continues at very low levels, the April index being below that for March. Car loadings showed a slight gain. Both exports and imports were higher than in the previous month. The index of grain and live stock marketings advanced from 65.4 to 91.8. Grain marketings were substantially higher but shipments of live stock were lower. Cold storage holdings fell from 143.2 to 135.8.

***Agricultural Products.***—The index of wholesale prices of Canadian farm products rose from 62.7 to 64.7. This gain was due to improvement in the prices of field products which index advanced from 56.4 to 59.8. The average price of No. 1 Manitoba northern wheat was 87.6 cents per bushel in April, basis Fort William and Port Arthur compared with 81.9 cents in March. Prices of barley, oats, rye and flax were also higher. Moisture conditions are much more satisfactory in Western Canada than a year ago but cold weather has delayed seeding and retarded growth in all sections of the country.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.9 | 67.6 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 126.1 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | 116.3 |
| Aug. | 72.3 | 61.6 | 60.7 | 63.1 | 78.7 | 99.0 | 99.8 | 172.8 | 114.7 |
| Sept. | 72.0 | 61.3 | 58.9 | 65.3 | 79.0 | 97.1 | 97.5 | 127.7 | 117.7 |
| Oct. | 71.4 | 60.9 | 55.3 | 70.4 | 79.3 | 95.8 | 95.3 | 61.2 | 128.8 |
| Nov. | 71.2 | 61.2 | 55.7 | 70.4 | 79.4 | 96.5 | 97.0 | 51.2 | 130.4 |
| Dec. | 71.2 | 61.6 | 56.0 | 70.9 | 79.0 | 92.4 | 91.0 | 36.0 | 135.7 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.9 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 79.1 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 79.0 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.8 | 98.3 | 97.7 | 91.8 | 135.8 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1932, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1932, p. 32, and Monthly Mimeographs 1933 and 1934.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs, 1933-1934.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

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The report on farmers' intentions to plant issued by the Agricultural Branch of the Dominion Bureau of Statistics indicates that there will be a reduction of 3% in the acreage of spring wheat in 1935. This is the third successive year in which a reduction has been reported but it is not as large as in 1933 or 1934. Most of the reduction is in Saskatchewan where it amounts to 4%. On the other hand, intended acreage of oats will be 4% higher and that of barley will be 5% larger than in 1934. Farmers' intentions to plant potatoes indicate a reduction of 8% chiefly in the Maritime Provinces.

The index of prices of animal products receded from 73.3 to 72.9. Prices of eggs and calves were lower. Cattle prices were higher early in the month but were lower towards the end, reflecting conditions in United States markets. Hog prices advanced throughout April, and lambs sold at better prices on all markets except Toronto where heavy receipts from Western Canada were responsible for a recession.

Exports of cattle to United States to May 16 were 63,893 head. Sales of cattle at public markets to the foregoing date were 359,983 head compared with 415,212 head during the same period in 1934. Sales of calves were 133,969 and 313,644 respectively. Shipments of sheep were 76,116 and 70,900 during the same periods and hog gradings 1,236,768 in the first twenty weeks of 1935 against 1,286,060 during the first twenty weeks of 1934. Exports of bacon and hams to the United Kingdom during the twelve months ending March 31, 1935, were 1,270,529 hundredweight, compared with 945,597 hundredweight in the year ending March 31, 1934.

Production of butter during the first three months of 1935 compared with the same period in 1934 showed a decrease of 8.8%. The most marked regional decline took place in the Maritime Provinces. In Quebec on the other hand, there was an increase of 3.5%. British Columbia had an increase of 1.9%. There were decreases of 15.8 and 14.0% in Saskatchewan and Alberta, and Ontario showed a decrease of 5.8%. Total output was 23,660,171 pounds compared with 25,932,258 pounds in the first three months of 1934.

There was a slight increase in the number of boxes of cheese graded during the period December 3, 1934, to April 27, 1935, the total being 44,007 compared with 41,904 during a similar period ending April 28, 1934.

## FARM ASSESSMENT IN QUEBEC[1]

S. C. HUDSON[2]

Since taxes in rural municipalities are, for the most part, levied on the basis of real property, the major responsibility for an equitable distribution of the burden of municipal taxation rests with the assessors who evaluate the holdings of the individual taxpayer. Although such taxes are levied on real estate rather than income, it should be remembered that they must be paid in the long run, if at all, from income. The assessment of the farm then, if it is to be satisfactory, must reflect the productive capacity of that farm as measured by farm income.

The relation of farm taxes to farm income on a number of farms in the Province of Quebec is presented in Table 1. In this table, records of some 84 farms businesses were sorted on the basis of farm income and the farm taxes expressed as a percentage of the farm income for each group. The fact that farmers having incomes of less than $1,000 paid over 33% of their incomes in taxes, while those having incomes of $3,000 or more paid less than 3% of their incomes to their municipalities indicates that under the existing system, farmers with low incomes are taxed more heavily than those with large incomes. While it may be that some farmers received low incomes due to misfortune or poor management, it would seem that further study of assessment and factors affecting its accuracy would be helpful.

In an attempt to study the accuracy of the assessment of individual farms in a number of rural municipalities in Quebec, the assessed valuations of 84 farms for which farm management records were available were obtained from the respective

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[1] This study was conducted in co-operation with the Department of Farm Economics, Macdonald College, P.Q., and is a preliminary statement subject to revision and correction.

[2] Field Assistant, Economics Branch, Department of Agriculture, Ottawa.

Table 1.—Relation of farm income to farm taxes on 84 Quebec farms

| Farm income | Number of farms | Farm taxes in per cent of farm income |
|---|---|---|
| $ | | |
| Minus income | 19 | — |
| 0–1,000 | 37 | 23.5 |
| 1,000–2,000 | 16 | 11.5 |
| 2,000–3,000 | 8 | 5.4 |
| 3,000 and over | 4 | 2.9 |
| Totals | 84 | 13.8 |

municipal clerks and compared with the farm value as estimated by the farm operator in collaboration with an experienced farm management investigator. A frequency distribution of these farms according to the ratio of assessed to estimated value is presented in Table 2. While considerable variation may be noted in the assessment practices in different municipalities, the average assessment ratio varying from about 20 to 60% of the estimated value, the variation in the assessment ratios of individual farms within each municipality is of much greater consequence.

The results of this variation in assessment may be noted in Table 3 in which the farms are grouped according to their estimated value. While farms valued under $1,000 were assessed on the average at 48.2% of their estimated value, those valued at from $10,000 up to $20,000 had an average assessment ratio of 37.7% and those valued at $20,000 and over were assessed at 30.1%. That is, low-valued farms are over-assessed and thus over-taxed relative to those of higher value.

Table 2.—Frequency distribution of some Quebec farms on the basis of the ratio of assessed to estimated valuation

| Class interval | Twp. No. 1 | Twp. No. 2 | Twp. No. 3 | Twp. No. 4 | Twp. No. 5 | Twp. No. 6 | Totals |
|---|---|---|---|---|---|---|---|
| 5– 10 | – | 1 | – | – | – | – | 1 |
| 10– 15 | – | – | – | – | – | – | – |
| 15– 20 | 1 | 6 | – | – | – | – | 7 |
| 20– 25 | 2 | 6 | – | – | – | – | 8 |
| 25– 30 | 1 | 4 | – | 1 | – | – | 6 |
| 30– 35 | 9 | 2 | – | 4 | – | – | 15 |
| 35– 40 | 3 | – | 2 | 1 | 1 | 2 | 9 |
| 40– 45 | 2 | – | 2 | 1 | 2 | 3 | 10 |
| 45– 50 | – | – | 1 | 1 | – | 1 | 3 |
| 50– 55 | 4 | – | – | 1 | 1 | – | 6 |
| 55– 60 | – | – | 1 | – | – | – | 1 |
| 60– 65 | – | – | – | 2 | 3 | 2 | 7 |
| 65– 70 | – | 1 | 2 | – | – | – | 3 |
| 70– 75 | – | – | 1 | 1 | – | – | 2 |
| 75– 80 | – | – | – | – | – | – | – |
| 80– 85 | – | – | 2 | – | – | – | 2 |
| 85– 90 | – | – | – | – | 1 | – | 1 |
| 90– 95 | – | – | – | – | – | – | – |
| 95–100 | – | – | – | – | – | – | – |
| 100–105 | – | – | 2 | – | – | – | 2 |
| 105–110 | – | – | – | 1 | – | – | 1 |
| Totals | 22 | 20 | 13 | 13 | 8 | 8 | 84 |
| Average ratio | 33.1 | 20.4 | 60.1 | 44.3 | 53.7 | 46.9 | 36.8 |

In order to determine the reason for this tendency on the part of assessors to over-value farms in the low value groups as compared with those in the higher limits, a study was made of the extent to which certain factors affecting the value of property are considered by assessors. Factors studied included size of farm, value per arpent, and the relative value of buildings.

In considering the relation of size of farm to accuracy of assessment, it was found that farms of different size were assessed at substantially the same percentage of their estimated value (Table 4).

TABLE 3.—RELATION OF VALUE OF FARM TO EQUALITY OF ASSESSMENT

| Value of farm | Number of farms | Average ratio of assessed to estimated value |
|---|---|---|
| $ | | |
| 0–10,000 | 42 | 48.2 |
| 10,000–20,000 | 23 | 37.7 |
| 20,000 and over | 19 | 30.1 |
| All farms | 84 | 36.8 |

TABLE 4.—RELATION OF SIZE OF FARMS TO EQUALITY OF ASSESSMENT

| Size of farm (arpents) | Number of farms | Average ratio of assessed to estimated value |
|---|---|---|
| Under 100 | 36 | 37.3 |
| 100 – 200 | 33 | 36.0 |
| 200 and over | 15 | 37.3 |
| All farms | 84 | 36.8 |

A study of the relation of the "per arpent" value of farm property to the accuracy of assessment, however, indicates that while farms valued at less than $100 per arpent are assessed on the average at over 48% of their estimated value, those valued at $150 or over were assessed at 32% (Table (5). That is, farms having a low "per arpent" value are over-assessed as compared with those having a high "per arpent" value due to the fact that the assessor apparently does not give sufficient consideration to the "quality" aspect of a farm in making his assessment. As a result of this, a highly productive farm is often assessed at a lower percentage of its full value than one the productivity of which is relatively low.

The influence of the relative value of buildings and improvements on the accuracy of assessment is presented in Table 6. While farms on which buildings made up less than 20% of the value of the farm were assessed at 29% of their estimated value, those on which buildings accounted for over 60% of the value of real estate had an assessment ratio of 48%. In appraising a farm, therefore, the assessor apparently gives undue weight to buildings with the result that a poor farm which is well equipped in this respect may be assessed much higher than a more productive one, having less pretentious buildings.

TABLE 5.—RELATION OF THE "PER ARPENT" VALUE OF REAL ESTATE TO EQUALITY OF ASSESSMENT

| Estimated value of real estate per arpent | Number of farms | Average ratio of assessed to estimated value |
|---|---|---|
| $ | | |
| Under 100 | 36 | 48.2 |
| 100 – 150 | 11 | 35.9 |
| 150 and over | 37 | 32.1 |
| All farms | 84 | 36.8 |

TABLE 6.—RELATION OF THE PROPORTION WHICH VALUE OF BUILDING IS OF VALUE OF REAL ESTATE TO EQUALITY OF ASSESSMENT

| Value of buildings expressed as a percentage of value of real estate | Number of farms | Average ratio of assessed to estimated value |
|---|---|---|
| Under 20 | 7 | 29.0 |
| 20 – 40 | 38 | 38.3 |
| 40 – 60 | 32 | 36.4 |
| 60 and over | 7 | 48.4 |
| All farms | 84 | 36.8 |

From the foregoing, it is evident that considerable inaccuracy exists in the assessment of farm property in the Province of Quebec with the result that low-valued farms are over-assessed relative to those of higher value. Two of the principal causes of this inaccuracy of assessment were found to be the tendency on the part of the assessor to give insufficient consideration to the "quality" aspect of a farm and to place undue emphasis on the presence of buildings in appraising a farm for assessment purposes. A similar tendency was found to exist in the Province of Ontario.

## AGRICULTURAL MARKETING RESEARCH

W. C. Hopper[1]

One of the primary objects of agricultural marketing research is to obtain facts concerning demand which will lead to increased returns to producers of agricultural commodities. Another is to obtain information which will reveal methods of reducing the spread between producer and consumer prices.

In recent years much emphasis has been placed on the need for better and cheaper methods of distribution but before much can be accomplished in their improvement, facts respecting present distribution methods and costs must be obtained, tabulated and analysed. There are different ways of approaching a study of marketing agricultural products. One of these is the commodity approach. The marketing problems of farmers, however, vary not only with the commodity but also with distance from market, facilities for marketing and methods of marketing. The marketing problems of the farmer in Northern Ontario, for example, are quite different from those of the wheat farmer of the Prairies, the potato farmer in the Maritime Provinces and the fruit grower of Ontario and British Columbia.

Many farmers who, formerly, were interested primarily in production are beginning to realize that the demand for the product which they have to sell is as important in determining the price as the supply of that product.

A comprehensive study of the marketing of any particular commodity would involve the gathering of information of the whole process of distribution of that product from the producer to the consumer. Such a study would include investigation with respect to the methods and practices of those engaged in marketing, the costs of preparation and transportation, the facilities for handling at the farm, at the country point and at the terminal, auction or public market, wholesaling and retailing costs and the many aspects of the demand or preferences of the ultimate consumer. Such a comprehensive investigation might also include a study of the relations of quality or grade to the price obtained by the producer, the country buyer, the wholesaler and the retailer.

There are certain more or less basic agricultural products produced in Canada which are as good or better in quality than similar products produced in other countries. There are certain agricultural products which, because of the suitability of the Canadian climate and soil are produced at a lower cost than similar products can be produced in other countries. Amongst these products might be included apples, potatoes, bacon, cheese, wheat, barley, poultry products, alfalfa seed, and so forth. While the major part of our farm products are consumed at home and it is domestic marketing that requires the most intensive study, nevertheless, a study of the demand for such commodities in countries other than Canada should be of distinct advantage to the Canadian producer as well as to the nation as a whole. That portion of the product which is exported may determine the price for all the product sold at home and abroad. In the nature of *definite marketing research*, very little study has been devoted to the obtaining of facts on consumer preferences and competition with other commodities in overseas markets with a view to expanding the sale of our export products in countries which now use but small quantities of these commodities.

***Reducing the Cost of Marketing.***—Efforts to decrease the costs of marketing and reduce the spread between consumer and the producer prices so that farmers may obtain a larger share of the consumer's dollar, cannot be very successful without a knowledge of the existing marketing costs.

One of the largest items in the costs of getting farm products to market is that of transportation. The use of the motor-truck has in recent years helped to reduce the cost of transporting certain farm commodities to market. Very little study, however, has been given to cost of operating motor-trucks. Farmers sometimes wonder if it will pay them to purchase a motor-truck or to have the product which they have to market, handled by hired truckers. Little is known about the fairness of the rates charged by truckers and little has been done to regulate the movement of farm products by trucks in order to avoid market "gluts" and "famines." Many of our present marketing facilities are uneconomic and inadequate. With the rapid growth of motor-truck distribution, facilities for handling farm produce in our cities have not been developed to meet the needs of this new method of transportation. New methods of retailing farm products in the city and at the roadside have come about in recent years. These changes in transportation and in methods of handling farm products should be studied with a view to modernizing marketing facilities in order to reduce marketing costs. When farm prices fall, marketing costs tend to remain high, and a wide margin between the producer and the consumer prices exists. In many cases inefficiency in the marketing system rather than excessive profits in distribution are the cause of these wide margins. Studies relating to the costs of grading, packaging, processing, handling, storing, wholesaling and retailing farm commodities should reveal facts which would aid in promoting more efficient marketing.

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[1] Chief Division of Marketing, Economics Branch, Department of Agriculture, Ottawa.

***Studies of Consumer Demand.***—Recognizing that the ultimate end of all production is consumption leads to the conclusion that studies of the many aspects of consumer demand for any particular commodity at home and abroad will reveal ways of increasing consumer demand for that commodity. Studies of the demand of consumers with different incomes, of different nationalities and in different locations with respect to the quality, grade, size and other characteristics of the commodity and of the uses made of that commodity in different households, should help farmers to decide the kind of product to produce if they wish to meet the needs of the consumers. Studies relating to the style and size of the package in which the commodity is marketed and the methods of retailing which will reach the largest number of consumers, should help farmers to decide how they should market the commodity. A knowledge of the kind of product which meets the desires of the majority of consumers and the marketing of that product in the manner best adapted to the need of the buyers are of greatest importance to producers of every class of commodity, whether the producer be a farmer, gardener, fruit grower, poultryman, publisher, builder or manufacturer.

Producers of many kinds of manufactured products are finding it to their advantage to make a careful study of the use by the consumers of the commodity they sell. An interesting example of the use of marketing research in business is given in the book entitled Marketing Research Technique by Percival White. The author states that important decisions in business are surprisingly easy to make if all the facts are known. The Parker Pen Company believed that the public would purchase coloured fountain pens and also large-sized pens. Should such pens be produced and offered to the public? If a wrong decision were made, the results might be very costly. Users of fountain pens were approached for information on the subject and the consensus of the opinion was that coloured and large-sized pens were desirable and would be saleable. A comparatively small number of such pens were then made for use in trial markets. As these experimental sales were successful, widespread distribution was then attempted. The result was very satisfactory. The Company, however, might have been wrong in its original belief, and if it had not first used field research and trial sales, might have plunged into a disastrous attempt to give the new product nation-wide distribution.

***Method of Conducting Research Studies.***—Research calls for the gathering of facts in an impartial manner. The scientific method is the same whether applied to physics, biology, chemistry or marketing. It begins with the gathering of facts, continues with the registration and measurement of the data obtained, is followed by tabulation and charting of the information, and finally the drawing of conclusions. There are many different ways employed to obtain the facts. The examination and the extraction of the data from existing books and records, personal interviews, mail questionnaires and the actual recording of the necessary data while the process of marketing being studied is in progress, are some of the methods which are employed to obtain the facts needed. Sometimes these data may be supplemented by statistical information which has already been gathered and tabulated by others.

***Marketing Research and the Individual Farmer.***—How will the individual farmer benefit by marketing research? An apple producer, for example, may have several alternatives from which to select his method of sale. The country dealer or shipper, the commission merchant in the city, the trucker-dealer who buys outright at the farm, the nearest public market, the roadside market, the local store, the local co-operative association and the exporter, might constitute the outlets for the apples which this particular farmer produces. Marketing research would help this producer to select the method of sale which has returned to producers in his community the higher average price for apples over a period of years. The location of the farm with respect to consuming centres, public markets and good highways, would, of course, influence the price obtained from these various agencies. Marketing studies to determine the grade, the variety or varieties, the size and type of containers which command the highest prices from the jobber, the retailer and the consumer, would be of vital interest to an individual farmer.

In addition to our domestic market for apples, we have an export market. Studies of the varieties, the size, the colour, the grade and the size and type of container, which best meet the requirements of the fruit trade and the consumers in the United Kingdom, would be very useful to individual Canadian fruit growers. Studies of approved methods of ocean shipments and of the manner of selling competing fruits, would, if properly made, yield good returns for the time and money spent on such investigations.

It was found that the most important factor lowering the price of Maine potatoes in large city markets were broken and injured tubers. Injuries of this kind can be controlled by careful production and harvesting methods but it was necessary to carry on marketing studies to show the importance of this price limiting factor.

Marketing studies have shown that some farmers regularly obtain better prices than others. Careful analysis of the product, the package, the variety, the method of shipment, the method of harvest, the kind of seed sown, the cultural methods used and the type of soil in which the product was grown by the farmer who receives the higher prices, would be of great help to those farmers who always receive the lower prices for the same commodity. One of the outstanding functions of marketing studies is to learn what, where, how and when to produce various kinds of farm commodities if the highest possible returns are to be obtained from their sale.

There are definite principles underlying the marketing of farm commodities as there are underlying their production but these marketing principles can only be determined after the facts have been obtained and analysed.

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C. M. Collins, Agricultural Representative for Annapolis County, Nova Scotia, is the author of a bulletin entitled "A Study in Apple Returns" which has been published by the Nova Scotia Department of Agriculture. One of the important results reported was that "The four-year weighted average warehouse price for ten varieties of apples of all grades and sizes varied in warehouse records examined by as much as 41 cents per barrel. In other words one warehouse packing out 33,746 barrels of these ten varieties over the four years, distributed $13,835 more to its members during that period, than it would, had its price been on a level with the lowest warehouse."

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C. S. Orwin, Agricultural Economics Research Institute, Oxford University, writing in the April issue of "The Scottish Journal of Agriculture" states "It is at once apparent that the item of labour in the total cost of the product would be very much higher in British agriculture, if farming in this country were conducted under a system of labour organization similar to that in competing countries, and it follows that only by the adoption of other methods of management designed to raise the efficiency of the labour employed can the British farmer expect to maintain his position in an open market."

## FINANCIAL STATEMENTS[1]

W. F. Chown[2]

The purpose of accounting is to build up a record of business transactions from which statements can be prepared at any time to show the actual financial position of the business and the profit or loss to the owner. Accounting is an art, not an exact science, and some knowledge of the principles involved and terminology employed should be of value in preparing simple financial statements and in the interpretation of the more difficult ones.

***Description of Statements in Common Use.***—The Statement of Assets and Liabilities is prepared at the beginning of any business enterprise or at the installation of its first systematic accounts, and thereafter at the end of each financial period or at any time special circumstances may demand. It is designed to show the financial position of a business at a given time. When drawn up in account form, the Assets are ranged upon the left-hand side and the Liabilities upon the right. The Excess of Assets over Liabilities represents the net worth of the business. During the period of operations, changes occur from day to day in the value of Assets, Liabilities and Net Worth. The profit or loss for any period may be determined by comparing such statements prepared at the beginning and end of the period. Subject to adjustment for additions or withdrawals of capital, an increase in the value of Net Worth represents a profit, and a decrease, a loss. Such a comparison determines the amount of profit or loss, but does not explain it.

The Statement of Income and Expenditure is prepared at the end of any financial period to explain as fully as may be needed the manner in which the profits have been earned or the losses incurred. When drawn up in account form, the various classes of income are ranged on the right-hand side and the various classes of expenditure on the left. An Excess of Income over Expenditure is a profit, and an Excess of Expenditure over Income is a loss.

The Balance Sheet is a statement of assets and liabilities prepared from books kept by double entry, whereas a Statement of Assets and Liabilities may be prepared from single entry records, estimates, appraisals or any method except that employed in double entry bookkeeping. The Profit and Loss Account is a statement of income and expenditure prepared, like the Balance Sheet, from books kept by double entry.

***The Statement of Assets and Liabilities.***—This Statement is a necessary basis for the installation of accounting records and also it is the necessary basis for all loans. To the prospective lender, it serves two main purposes: (1) basis of analysis for short term credit; and (2) basis of analysis for long term credit; and will be reviewed differently according to the term of the prospective loan.

***Classification of Assets and Liabilities.***—The proper classification, grouping and valuation of Assets and Liabilities are the prime requisites.

Current Assets include cash and those assets which will be converted into cash in the ordinary course of the business, e.g. notes and accounts receivable, produce or live stock intended for sale by a farmer, or butter on hand in a creamery. Fixed Assets are those of a permanent nature purchased or acquired for the purpose of earning income and not for sale, e.g. land, buildings, machinery, the herd of a dairy farmer. Other Assets may include deferred items, such as supplies or seed on hand, not for sale; prepaid items, such as insurance or rent, the value of which has not yet been consumed; and investments that will continue to be held while the business remains a "going concern."

Current Liabilities are the debts due at the date of the Statement or that will be presently payable, e.g. bank loans, accounts payable, machinery and other notes coming due during the current year, accrued wages or taxes—in short, those items that will be payable out of current funds. Fixed Liabilities are long term debts, the payment of which is deferred to a definite future time, e.g. mortgages. The Excess of

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[1] To be continued.

[2] Accountant Examiner, Economics Branch, Department of Agriculture, Ottawa.

Assets over Liabilities shows the net worth of the business to its owner or owners. It consists of the original capital, plus additions of capital or earnings, less withdrawals of capital or operating losses incurred.

***Valuation of Assets.***—To the banker reviewing a statement for the purpose of determining whether an extension of credit is advisable or not, the current assets and liabilities will be of chief interest. These are the resources from which he may expect to receive repayment, set off against those obligations that must be paid in priority to this loan. This group of assets, then, should be valued at their realizable value. The usual rule in valuing merchandise inventory is "at cost or market, whichever is lower." In farm work, because the cost is not usually known, it is reasonable to value produce and live stock held for sale at a fair market value on the farm.

There are several bases on which fixed assets may be valued, but the conventional way is at cost, less depreciation to date. Land, properly worked, does not depreciate; buildings and fences depreciate at from 2–4% per year; machinery at approximately 10% per year. Horses, dairy cattle and beef breeding stock should be valued individually. Their value will increase to maturity and then will have to be reduced because of depreciation. Be conservative in this and all other valuations. The valuation of fixed assets and particularly land, buildings and machinery does not necessarily coincide with and may differ widely from present realizable value or from present replacement value; this section is somewhat historical in character, showing the cost of the assets less the value estimated to have been consumed to date and actually charged to operations.

Other Assets may properly be valued at cost, or, if that is not known, present market value or at the remaining unconsumed value in the case of prepaid insurance.

***Illustration.***—Statements I and II below illustrate the greater clarity that is achieved by a proper grouping.

I

THOMAS BROWN

STATEMENT OF ASSETS AND LIABILITIES

March 31, 1935

| ASSETS | | LIABILITIES | |
|---|---|---|---|
| Land and buildings | $ 9,600.00 | Machinery note | $ 80.00 |
| Feed and seed | 410.00 | Mortgage and interest | 4,240.00 |
| Machinery and equipment | 900.00 | Accounts payable | 100.00 |
| Live stock | 1,785.00 | Excess Assets over Liabilities | 8,636.50 |
| Cash and bank | 114.50 | | |
| Insurance prepaid | 65.00 | | |
| Milk cheque | 182.00 | | |
| | $13,056.50 | | $13,056.50 |

***Results Obtained by Re-arrangement.***—From Statement II, it is readily apparent that obligations amounting to $420.00 are presently payable, and that there are on hand cash and other resources that will soon be converted into cash, amounting to $581.50, leaving $161.50 free for running expenses. Prepaid expense items to the value of $375.00 are also shown. With these facts, and some additional information with respect to prospective earnings and expenses, it should be possible to determine the expediency of a loan.

The original cost of the Fixed Assets and the provision for depreciation to date are plainly shown so that the reader is in a position to judge of the adequacy of this provision. The mortgage of $4,000.00 is set opposite the real estate by which it is secured. It is evident that Net Worth is represented to the extent of $8,100.00 by an investment in Fixed Assets.

In statement I above, these facts are obscure whereas in statement II, they are either obvious or can be easily deduced. The same valuations have been used in both statements so that the improvement as a means of giving information has been achieved by a rearrangement of the same essential data.

II

### THOMAS BROWN

### Statement of Assets and Liabilities

March 31, 1935

#### Assets

| | | | |
|---|---|---|---|
| Current Assets:— | | | |
| Cash on hand and in bank | | $ 114.50 | |
| Milk cheque receivable | | 182.00 | |
| Live stock for sale | | 185.00 | |
| Seed grain for sale | | 100.00 | |
| Total Current Assets | | | $ 581.50 |
| Fixed Assets:— | | | |
| Land | | $ 6,000.00 | |
| Buildings | $ 6,000.00 | | |
| *deduct*, provision for depreciation | 2,400.00 | 3,600.00 | |
| Farm machinery and equipment | $ 1,800.00 | | |
| *deduct*, provision for depreciation | 900.00 | 900.00 | |
| Dairy cattle | | 1,000.00 | |
| Horses | | 600.00 | |
| Total Fixed Assets | | | 12,100.00 |
| Other Assets:— | | | |
| Feed and seed on hand | | $ 310.00 | |
| Insurance prepaid | | 65.00 | |
| Total Other Assets | | | 375.00 |
| Total Assets | | | $13,056.50 |

#### Liabilities

| | | |
|---|---|---|
| Current Liabilities:— | | |
| Accounts payable | $ 100.00 | |
| Mortgage interest | 240.00 | |
| Machinery note | 80.00 | |
| Total Current Liabilities | | $ 420.00 |
| Fixed Liabilities:— | | |
| Mortgage at 6% due 1939 | | 4,000.00 |
| Total Liabilities | | $ 4,420.00 |
| Net Worth:— | | |
| Excess Assets over Liabilities | | 8,636.50 |
| Total Liabilities and Net Worth | | $ 13,056.50 |

## AMENDMENTS TO THE CANADIAN FARM LOAN ACT, 1935

The Canadian Farm Loan Act of 1927 amended by the Parliament of Canada in 1934,[1] was radically modified by the Canadian Farm Loan Act Amendment Act, 1935.

***Canadian Farm Loan Board.***—Under the original act, the Board set-up in 1929 consisted of four members: the Minister of Finance was ex officio chairman of the Board and the Commissioner the chief executive officer. By the terms of the amending legislation, 1935, the Board shall consist of not less than three, nor more than five members, and the Commissioner will be Chairman. The Deputy Minister of Finance or the Comptroller of the Department of Finance shall be one of the members of the Board.

The Advisory Council to the Board consisting of the Provincial Treasurer of each Province of Canada in which a provincial Board was organised, and the chief executive officer of each provincial board has been abolished, and the Board may appoint for any province or for any two or more provinces in which it operates, a chief executive officer to have charge of the operations of the Board in such province or provinces. This officer will, upon appointment, exercise all the powers and duties conferred upon him by the Board. A local loan advisory board of not more than three members may be appointed by the Board and the chief executive officer is ex officio-member and chairman of it.

***Capital Requirements.***—Under the Act of 1927, the Government of Canada was authorized to subscribe initial capital to an amount not exceeding $5,000,000 for purposes of the Board. For a period of three years this initial capital was free from interest after which it drew 5% per annum and was repayable out of earnings of the Board after providing a reserve fund at least equal to the total repayments including the repayment then proposed to be made. In addition to this source of capital, the Board was authorized to issue capital stock of one dollar each. The Federal Government and the Government of each province in which loans were made were both required to subscribe for capital stock to an amount equal to 5% of the total amount of principal outstanding on loans made in such province by the Board. Each borrower was also required to subscribe to the capital stock to an amount equal to 5% of the sum borrowed by him.

This section of the Act has been amended in order to permit the Government to fix the rate of interest on initial capital advances and to eliminate the requirements for the purchase of capital stock in the Board by provincial governments and borrowers. The Government of Canada will provide the Board with initial capital to an amount not exceeding $5,000,000 on the same conditions as previously set up, that is free from interest charges for a period of three years after which time interest shall be paid at such rate as the Governor in Council shall direct instead of five per cent per annum as stated in the Act of 1927. The Board shall annually carry to reserve fund 25% of the net earnings of the Board until it equals 25% of the paid capital stock of the Board and thereafter at least 10% of the net earnings.

The Minister of Finance may purchase at a price not exceeding the par value, the capital stock already subscribed for by the provinces. The Board may also retire the outstanding capital stock subscribed by a borrower under the Act, by crediting the amount of the par value of such stock as a payment upon his loan and the borrower ceases to be a stockholder of the Board.

The outstanding Farm Loan bonds shall not exceed at any time twenty times the paid-up capital stock subscribed for by the *Government of Canada* instead of the *borrowers* as provided in the Act of 1927.

***Purchase of Bonds by Minister.***—The Minister of Finance may purchase from time to time on behalf of the Dominion of Canada, bonds issued by the Board to an amount not exceeding fifty million dollars at any one time, and the Governor in Council may further authorize the guarantee of the principal and interest of Farm Loan bonds to the amount of forty million dollars. Since an amount of $10,000,000 has already been loaned to farmers, the Board will have $80,000,000 available for new loans.

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[1] See Economic Annalist, Vol. IV, No. 3, pp. 43-45.

***Loans.***—Before an applicant can have his application considered by the Board, it is necessary that he come within the definition of farmer, which, under the Act means: A person whose principal occupation consists of farming which includes stock raising, dairying and the tillage of the soil.

Loans may be made only to farmers actually engaged or shortly to become engaged in the cultivation of the farm mortgaged and whose experience, ability and character are such as to warrant the belief that the farm to be mortgaged will be successfully cultivated, provided that no loan shall be made on the security of unimproved land except for the purpose of making improvements on it.

***Loans on First Mortgages.***—Under the Act of 1927 no loans were granted in excess of 50% of the Board's appraised value of the land and 20% of the value of buildings to a maximum loan of $10,000. The maximum amount of a loan was reduced to $7,500 by the amending legislation of 1934 and to $5,000 by that of 1935. The basis of valuation, however, has been changed in 1935 and loans shall be made only where the Board can hold first mortgages on farm land up to 50% of the Board's appraised value of land and buildings. The interest rate on such loans has been fixed at 5% per annum.

The proceeds of the loan may be used for the following purposes: to purchase farm land, fertilizers, seed, live stock, tools, machinery and any implements and equipment necessary to the proper operation of the farm mortgaged; to erect farm buildings or to clear, drain, fence or make any other permanent improvement tending to increase the productive value of the land; to discharge liabilities already accumulated; or for any other purposes which in the judgment of the Board may be reasonably considered as improving the value of the land for agricultural purposes.

***Loans on Second Mortgages.***—In any case where the Board granted a loan on the security of a first mortgage and where such a loan will not be sufficient to discharge the indebtedness of the farmer to provide for all his reasonable and necessary requirements a further loan of $1,000 may be secured on the security of a second mortgage for a period of not more than six years on farm lands in the provinces where chattel security may be taken by the Board on live stock and other personal property. In such provinces, however, the aggregate loan shall not exceed two-thirds of the appraised value of land and buildings given as security and, in any province where chattel security may not be taken, only 60% of the value of land and buildings. A loan granted on second mortgage cannot exceed one-half the amount advanced on the security of the first mortgage and in any case, the maximum aggregate loan which may be made to a farmer is $6,000. The interest rate on loans made on a second mortgage shall not exceed the current rate charged in respect of first mortgage loans by more than 10% per annum.

***Repayment of Loans.***—By the terms of the amending legislation, every loan is repayable upon such terms and within such periods not in excess of twenty-five years as the Board may prescribe. However, all loans repayable over a period in excess of five years shall be paid in equal annual or semi-annual instalments of principal and interest. The rate of interest to be paid by borrowers on defaulted payments and arrears in taxes and other charges assumed by the Board has been fixed at 5½% for the time being and shall not exceed 8% per annum.

***Relationship to Farmers' Creditors Arrangement Act, 1934.***—The purpose of these amendments to the Farm Loan Act is to provide farm mortgage credit at reasonable rate to farmers particularly when the result will be the consolidation of their indebtedness under the provisions of the Farmers' Creditors Arrangement Act or otherwise.

Whenever a proposal for a composition, extension or scheme of arrangement made under the Arrangement Act has been duly approved, the holder of a mortgage may secure from the Farm Loan Board a loan not exceeding one-quarter of the principal amount of the mortgage assigned or hypothecated, for a period of one year with possible extension of time for repayment of such loan upon approval of the Board. The proceeds of this loan, however, have to be passed to the farmer for the proper operation of the farm covered by the first mortgage. The rate of interest on such loans shall not be in excess of that payable on the mortgage assigned or hypothecated and in no case more than 1% in excess of the rate charged the mortgagee by the Board.

***Provincial Legislation.***—The amending legislation completely eliminates the principle of dual control as between the provinces and the Dominion. Administration will now be entirely and directly in the control of the Canadian Farm Loan Board, which will be able to make loans in all provinces instead of, as previously, only in those provinces which passed the necessary legislation required by the Dominion statute.

In 1931 the Quebec Legislature enacted legislation empowering the Provincial Government to contribute to the interest payable by borrowers in the province of Quebec up to 1½%, thus reducing to 5% the rate of interest on loans granted by the Canadian Farm Loan Board. In 1935 the Quebec Legislature amended this legislation in order that the rate of interest payable on farm loans by Quebec borrowers be not more than 3%.

The Eleventh American Institute of Co-operation will be held at Cornell University, July 15–20. The Institute will emphasize instruction in co-operation: "It will be more of an instructional character with closely co-ordinated lectures thoroughly explaining various aspects of the business problems of agricultural co-operatives. These lecture courses will be supplemented by intensive conferences developing more detailed aspects of the various problems coming before the Institute" said C. W. Holman, Secretary of the Institute in a preliminary announcement.

Nearly 100 farmers are completing cost account records in co-operation with the Department of Agricultural Economics and Farm Management, Cornell University. In the past twenty years, operators of farms, on which cost accounts have been kept, have obtained labour incomes averaging $634. For the seven-year period 1914 to 1920, a period of high prices, incomes averaged $1,241. From 1931 to 1933, when prices were very low, labour incomes averaged minus $811, whereas during the period 1921–30, the average was $644. This was a period of fairly stable prices.

## ECONOMIC LITERATURE

ALLEN, WILLIAM, HOPE, E. C., and HITCHCOCK, F. C. Bulletin 64. Studies of Probable Net Farm Revenues for the Principal Soil Types of Saskatchewan. Department of Farm Management, College of Agriculture, University of Saskatchewan, Saskatoon.

The writers of this bulletin have utilized the results of farm management surveys conducted during the past ten years in various sections of Saskatchewan to predict probable operating costs and revenues for twenty-four farms of different sizes representing the several soil types of that Province. The purpose of this report is to present conservative estimates of the costs likely to be incurred in farming in areas typical of the province and of the revenues that may be expected from farms of representative sizes in these areas during the next decade. Estimates of probable costs that may be anticipated are based upon farm survey experience with considered adjustments. Crop yields and grades are based on an average prevailing in the various areas between 1918 and 1930. The organization of the farm has been assumed to continue with little change. It is also assumed that farms of one section or less in size will be operated with horse draft power. Prices for both crops and live stock have been estimated on the basis of the five-year average between 1910 and 1914 and adjustments for varied conditions in the different areas have been made. Farm expenses follow closely those obtaining in the regional surveys which have been completed, with modification to allow for changes in the price level. On farms of less than a section of land, no allowances have been made for operating an automobile but the expense of a driving horse has been allowed. An automobile of low value has been included as part of the standard equipment on the farms of a section or more. Living costs were considered for only a moderate standard of living and would not provide for extensive replacements of furnishings and clothing.

***Financial Summary.***—The net cash income represents the probable return to the farm operator and his family for their labour contribution (called the net income) and the non-cash items of expense that may be expected in building and equipment maintenance. On the basis of the net incomes shown for the representative farms, the maximum obligations that can be undertaken have been determined by reference to amortization tables and are presented for periods of fifteen and twenty years with interest at six and seven per cent for each of these periods.

A detailed operating statement is set forth for each type of farm which is summarized in the bulletin as presented below:—

SUMMARY OF STATEMENTS OF NET CASH INCOMES, NET INCOMES AND DEBT CARRYING CAPACITY OF FARMS INCLUDED IN BUSINESS STUDIES

| Soil type | Average yield of wheat 1918-1930 | Size of farm | | | Net cash income | Net income | Debt that can be amortized by net income at 6% in 20 years |
|---|---|---|---|---|---|---|---|
| | | Total acres | Acres of crop-land | Acres of crops | | | |
| | | | | | $ | $ | $ |
| Inferior prairie | 9.8 | 320 | 153 | 153 | −137 | −236 | Nil |
| | 9.8 | 640 | 304 | 293 | 458 | 267 | 3,062 |
| Average prairie (B) | 11.3 | 320 | 301 | 211 | 312 | 49 | 562 |
| | 11.3 | 640 | 598 | 406 | 856 | 597 | 6,848 |
| Poor prairie | 12.5 | 320 | 203 | 130 | −242 | −332 | Nil |
| | 12.5 | 640 | 397 | 257 | − 25 | −307 | Nil |
| Fair prairie | 13.1 | 320 | 242 | 167 | 137 | 4 | Nil |
| | 13.1 | 640 | 450 | 365 | 1053 | 859 | 9,852 |
| | 13.1 | 1280 | 902 | 732 | 3212 | 2374 | 27,230 |
| Average prairie (A) | 13.6 | 320 | 250 | 181 | 228 | 42 | 482 |
| | 13.6 | 640 | 485 | 356 | 985 | 703 | 8,086 |
| Fair to good southern park | 15.4 | 320 | 229 | 166 | 269 | 114 | 1,308 |
| | 15.4 | 640 | 465 | 330 | 1085 | 796 | 9,130 |
| Very good park and prairie | 16.4 | 320 | 268 | 181 | 510 | 307 | 3,521 |
| | 16.4 | 640 | 546 | 363 | 1611 | 1280 | 14,704 |
| Fair to good eastern park | 16.7 | 320 | 194 | 139 | 134 | − 10 | Nil |
| | 16.7 | 640 | 360 | 262 | 760 | 523 | 6,000 |
| Average northern park | 19.0 | 320 | 183 | 148 | 419 | 262 | 3,005 |
| | 19.0 | 640 | 303 | 230 | 805 | 547 | 6,286 |
| Best park | 19.0 | 320 | 221 | 181 | 692 | 432 | 4,955 |
| | 19.0 | 640 | 448 | 393 | 1978 | 1491 | 17,102 |
| Best prairie | 20.0 | 320 | 295 | 189 | 778 | 516 | 5,917 |
| | 20.0 | 640 | 596 | 380 | 2127 | 1588 | 18,214 |
| | 20.0 | 1280 | 1180 | 780 | 7025 | 5788 | 66,388 |

The authors point out that in this publication “many shortcomings will be apparent.

## NOTES

Thirty-eight (38) marketing schemes have been submitted to the Dominion Marketing Board for consideration. Of these, eleven (11) have been approved, and are in operation. Three were voted on and the percentage of voters favouring them was not considered sufficient by the Minister to approve them. One was not acted upon as the proposal was not considered expedient. Six (6) were returned to the petitioners; in four cases the principal market for the product to be regulated was within the province of production and, therefore, could not be considered as coming within the scope of the Act and in the other two cases, the products were not natural products as defined by the Natural Products Marketing Act. Seventeen (17) schemes are now under consideration by the Dominion Marketing Board.

A. Fulton, Representative of the Ontario Fruit Growers' Association in Great Britain, reports that there has been a marked reduction in the number of slack barrels of apples shipped to that market during the present season. This is attributed to prompt shipment of apples from ordinary storage early in the season. During the late season, there was a higher percentage of "slacks" which is largely attributed to loose packing and failure "to plug" the barrels. A few shipments were forwarded without pads. The condition of the apples was reported to be very satisfactory.

The general index number of prices of agricultural produce in Great Britain monthly average (1911–13 = 100) was 112 in March. This was three points below the index for February but 4 points above that for March, 1934, and 10 points higher than in March, 1933. If payments under the Wheat Act and the Cattle Emergency Act had been taken into consideration, the index would have been 119. Lower prices for liquid milk and fat cattle contributed largely to the lower index for March, 1935.

H. R. Hare, Economics Branch, Department of Agriculture, Ottawa, is acting as Secretary of a subcommittee appointed by the National Barley Committee to study feed problems. W. R. White, of the Seed Branch who is Chairman of the Subcommittee, and Mr. Hare recently visited sections of Western Ontario in order to obtain information from feed dealers, elevator companies and farmers.

The Secretary of the International Conference of Agricultural Economists has advised that preliminary plans are being made for the fourth conference to be held in Scotland during the late summer of 1936. Proceedings of the third conference held at Bad Eislen, Germany, will soon be available. Dr. J. F. Booth, Economics Branch, Department of Agriculture, is the Canadian correspondent to the International Conference.

The Canadian Society of Agricultural Economics will hold its seventh annual meeting at the University of Alberta, Edmonton, in conjunction with the annual meeting of the Canadian Society of Technical Agriculturists. Sessions will be held each morning June 25th to 27th inclusive. Agricultural Policy, Farm Indebtedness, Land Appraisal, Credit, and Recent Changes in Marketing will be general topics for discussion.

The 1935 acreage of wheat in Europe is reported to be slightly larger than last year. Winter damage has been confined to comparatively small areas but drought has affected the crop in Spain and Italy. Conditions have also been unfavourable in North Africa and production will likely be appreciably less in this area.

A study of potato production in the Saint John Valley, New Brunswick, will be carried by the Economics Branch of the Dominion Department of Agriculture and the Department of Agriculture for New Brunswick. Field work will be commenced about the first of July.

# The
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. V, No. 3 Published by Authority of the Hon. Robert Weir Minister of Agriculture September, 1935

## THE ECONOMIC SITUATION

Stability in wholesale prices was reflected in the index number of wholesale prices in Canada which was unchanged in July. There were fractional gains in prices of vegetable products; animals and their products; fibres, textiles and textile products; wood, wood products and paper; non-ferrous metals and their products; and non-metallic minerals and their products. Small losses were registered in iron and its products, and chemicals and allied products showed no change.

***Retail Prices.***—The index of retail prices, rents and costs of services was also unchanged and among the sub-indexes only one slight change was reported, the index of prices of sundries receding two-tenths of a point. Minor revisions in the monthly indexes have been made as a result of more complete data.

***Physical Volume of Business.***—The index of the physical volume of business almost regained the high point of 103.2 recorded in May. Industrial production advanced from 99.7 to 104.0. Mineral production was just slightly above the level reached in June, the index being 135.3. Exports of nickel and zinc were higher. Shipments of gold and silver were lower. Imports of bauxite were much higher and coal production showed a gain. The index of manufacturing was substantially above that for June, rising from 98.4 to 101.7. Production of food stuffs made a slight gain. Exports of cheese rose from 48.8 to 127.7. The index of tobacco releases was slightly lower. Imports of textiles showed as a whole a sharp advance. Forest products were at about the same level as in June. Newsprint was decidedly lower but exports of boards and planks and shingles were higher than in June. Iron and steel production was substantially above that for June, the index rising from 107.4 to 142.8. Construction made a reasonably good gain, contracts awarded rising nearly twenty points. Trade employment was slightly improved. Car loadings made a small gain. Both exports and imports were higher than in June.

Marketings of grains and live stock were above those in the previous month, the index advancing from 106.1 to 164.7. Larger shipments of wheat and oats were chiefly responsible for the rise in grain marketings. Marketings of cattle and hogs showed substantial increases but the movement of sheep was less than during the month of June.

The index of cold storage holdings in July was considerably lower than in June. Stocks of eggs, butter, cheese, beef, pork and lard were below those in June. There was an increase in holdings of veal, poultry and mutton.

***Agricultural Products.***—The index of wholesale prices of Canadian farm products was substantially unchanged, the index in July being 61.5 compared with 61.4 in June. The average price of No. 1 Manitoba northern wheat basis Fort William and Port Arthur was 81.4 cents per bushel compared with 81.7 in June. No. 2 C.W. oats were 42.9 cents as against 39.8 in June, No. 2 C. W. rye 36.1 cents and 41.2 cents respectively, and No. 3 C. W. barley 35.5 cents compared with 39.2 in June. The average price of No. 1 C. W. flax was 122.6 cents in July whereas in June, it was 121.4.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION
COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.9 | 67.6 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 126.1 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | 116.3 |
| Aug. | 72.3 | 61.6 | 60.7 | 63.1 | 78.7 | 99.0 | 99.8 | 172.8 | 114.7 |
| Sept. | 72.0 | 61.3 | 58.9 | 65.3 | 79.0 | 97.1 | 97.5 | 127.7 | 117.7 |
| Oct. | 71.4 | 60.9 | 55.3 | 70.4 | 79.3 | 95.8 | 95.3 | 61.2 | 128.8 |
| Nov. | 71.2 | 61.2 | 55.7 | 70.4 | 79.4 | 96.5 | 97.0 | 51.2 | 130.4 |
| Dec. | 71.2 | 61.6 | 56.0 | 70.9 | 79.0 | 92.4 | 91.0 | 36.0 | 135.7 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.7 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1932, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1932, p. 32, and Monthly Mimeographs 1933 and 1934.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries, See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs, 1933-1934.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

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The carryover of wheat at the end of the crop year was 214,935,824 compared with 203,944,533 bushels at July 31, 1934. Exports during the past crop year were 144,374,910 bushels compared with 170,234,013 in 1933–34. Exports of wheat flour were 4,750,310 barrels compared with 5,454,636 barrels in the crop year of 1933–34. The world carryover at July 31 was 850 million bushels compared with 1,135 million in 1934.

The index of prices of live stock and animal products receded still further, being 71.1 in July, prices of steers, calves, sheep and hogs all being lower at Toronto and Winnipeg. Prices of creamery butter in Toronto and Montreal were lower than in June but above the average for July 1934.

***Dairy Products.***—The quantity of cheese graded between December 3, 1934 and July 27, 1935 was 394,642 boxes, compared with 439,913 in the period December 4, 1933 to July 29, 1934.

Butter production in Canada during the first six months of 1935 showed a decrease of 5% compared with 1934. Quebec was the only province in which an increase was shown and this amounted to 3.4%. Production in Ontario declined .04%. Marked decreases have taken place in the Maritime Provinces, Manitoba and Alberta.

***Live Stock Marketing.***—Sales of cattle at public yards during the first thirty-four weeks in 1935 were 439,335 head compared with 387,215 during the same period in 1934. Sales of calves were 258,883 and 239,549 head respectively. There were 187,896 sheep sold during this period of 1935 as against 192,652 in 1934. The number of hogs graded was 1,903,544 and 1,958,642 respectively.

***Prices in United States.***—Wholesale prices in the United States have fluctuated about two points during the first six months of the year. The index was 115 in January and rose to 117 in April and receded to 116 in June. The index number of farm prices (August 1909–July 1914 = 100) fell from 104 in June to 102 in July. The decline was general but was most marked in the case of grains, truck crops, dairy products and meat animals.

## COST OF MANUFACTURING BUTTER IN THE PRAIRIE PROVINCES[1]

C. V. PARKER[2]

The production of creamery butter in the three Prairie Provinces was 67,148,500 pounds in 1934. This was 28.8% of the total production of the Dominion for that year. Production in the three provinces in 1934 was two and one-half times that of 1920, while the output of the Dominion was about double that of 1920. Butter production in the West has thus been increasing at a faster rate than the output of the whole Dominion. Particularly has this been so over the past five years.

More butter is produced in the three Prairie Provinces than is consumed there. The surplus is shipped to Eastern Canada and to British Columbia, and a small portion is exported to other countries.

Economy in the production of a commodity is always important and it is much more so when, as in the case of butter in the Prairie Provinces, a large proportion is shipped to distant markets. A knowledge of the factors affecting cost is, therefore, necessary in order that the most economical practices may be adopted. It was for this reason that a study of creamery management was instigated.

The study was conducted jointly by the Dairy Branch of the Departments of Agriculture in the three Prairie Provinces, the Rural Economics Divisions of the Universities in the Provinces and the Dairy and Economics Branches of the Dominion Department of Agriculture. Records from 91 of the 210 creameries operating in 1933 were obtained by personal visit to the creameries. Only 78 of those secured have been used for tabulation purposes. The records cover the 1933 fiscal year of the companies and they were obtained in the fall of 1934. The following data, comprising but a part of the study, deals with the costs of manufacturing butter and of gathering cream, and the returns to creameries and producers.

***Cost of Manufacturing.***—In this study, the cost of manufacturing a pound of butter includes all items of cost from the time the cream is received at the creamery until the butter is packed into 56-pound boxes. Charges for gathering the cream (dealt with in a succeeding paragraph) and costs of printing and shipping the butter are, therefore, excluded. Commissions on cream cheques have also been omitted.

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[1] Preliminary, subject to revision. Final, more detailed report to be issued later.

[2] Assistant Agricultural Economist, Economics Branch, Department of Agriculture, Ottawa.

Details on costs presented below were obtained from factory statements and with the exception of a few items were not changed. It was necessary to set up a uniform method of charging off depreciation because practices varied so widely. In this study, depreciation on equipment was calculated on the year's future use basis; present values and year's future use were obtained for the major items of equipment; by dividing the years into the present value, a depreciation figure for the year of the study was obtained. Depreciation on frame buildings was charged at 5 per cent and on brick structure at 3 per cent of the present value. The sum total of all depreciation charged corresponds closely to the amount allowed by the companies. Interest on investment has been included as a cost and was charged at 6% of the present value of that portion of land, buildings and equipment used in the manufacture of butter.

In Table 1, the 78 factories included in the study are grouped according to the pounds of butter manufactured. The average cost of manufacture in plants in which the production was under 100,000 pounds of butter for the year was 4.82 cents per pound while in factories having an output of over 500,000 pounds, the figure was 3.18, a range of 1.64 cents per pound. The effect of increased volume on unit cost is well illustrated in this table. The range in cost from the lowest to the highest cost factory was from 2.62 to 6.56 cents, a difference of 3.94 cents per pound.

An examination of the individual items of expense reveals the items which are affected when volume is increased. For instance, plant wages decreased from 1.36 cents per pound butter in very small plants to 0.76 cents in the largest factory group.

TABLE 1.—THE RELATION OF VOLUME OF OUTPUT TO COST OF MANUFACTURING A POUND OF BUTTER IN 78 CREAMERIES, PRAIRIE PROVINCES, 1933

| Items of cost | Output per factory in thousands of pounds | | | | | | All factories |
|---|---|---|---|---|---|---|---|
| | Under 100 | 100 to 199 | 200 to 299 | 300 to 399 | 400 to 499 | 500 and over | |
| Plant wages | cents<br>1.36 | cents<br>1.32 | cents<br>1.05 | cents<br>.90 | cents<br>.79 | cents<br>.76 | cents<br>.91 |
| Materials and miscellaneous | | | | | | | |
| Boxes and liners | .49 | .45 | .40 | .41 | .45 | .45 | .43 |
| Supplies | .32 | .20 | .22 | .19 | .27 | .18 | .20 |
| Power, light and fuel | .37 | .30 | .32 | .32 | .30 | .29 | .31 |
| Repairs | .15 | .18 | .14 | .15 | .10 | .10 | .13 |
| Grading cream | .09 | .11 | .12 | .16 | .13 | .11 | .12 |
| Sundry | .05 | .04 | .08 | .08 | .05 | .05 | .06 |
| Total | 1.47 | 1.28 | 1.28 | 1.31 | 1.30 | 1.18 | 1.25 |
| Overhead | | | | | | | |
| Taxes | .12 | .05 | .07 | .07 | .06 | .07 | .06 |
| Insurance | .13 | .10 | .08 | .08 | .06 | .05 | .07 |
| Depreciation | .56 | .32 | .27 | .29 | .22 | .19 | .25 |
| Interest | .45 | .26 | .24 | .26 | .18 | .17 | .22 |
| Total | 1.26 | .73 | .66 | .70 | .52 | .48 | .60 |
| Administration | | | | | | | |
| Salaries | .40 | .20 | .23 | .24 | .22 | .32 | .27 |
| Office supplies | .05 | .06 | .09 | .06 | .06 | .04 | .06 |
| Postage and phone | .11 | .10 | .09 | .14 | .14 | .16 | .13 |
| Travelling | .06 | .04 | .02 | .03 | .03 | .03 | .03 |
| Head office | .08 | .10 | .05 | .17 | .28 | .10 | .12 |
| Sundry | .03 | .06 | .05 | .07 | .03 | .11 | .08 |
| Total | .73 | .56 | .53 | .71 | .76 | .76 | .69 |
| TOTAL COST | 4.82 | 3.89 | 3.52 | 3.62 | 3.37 | 3.18 | 3.45 |
| Number of factories | 4 | 14 | 22 | 19 | 5 | 14 | 78 |
| Average pounds of butter | 87,702 | 156,744 | 248,371 | 340,467 | 440,018 | 761,473 | 350,500 |

Overhead items, taxes, insurance, depreciation and interest also showed a marked decrease. The cost of materials and miscellaneous items remained fairly constant when expressed as a cost per pound butter. Cream grading charges vary because of the different systems of grading in vogue in the three provinces. In Manitoba, the charge includes the wages of a man who is stationed at the creamery and who aids in the plant as well as doing the grading. Alberta and Saskatchewan, on the other hand, employ graders who visit the creameries at intervals and who do not help in the creamery. Apart from the group containing the smallest factories, administration costs are higher in the larger plants. This is accounted for in part by the fact that there are more branch creameries under head office supervision in the larger production groups. More bookkeeping is required in larger plants, which requires the employment of more highly paid office staffs.

Large reductions in cost of manufacture occurred from the first to the third group of factories and then a rise from 3.52 to 3.62 cents occurred after which a decline to 3.37 and 3.18 took place. Apparently, after a 300,000 pound capacity was reached, more equipment and space were needed. This is indicated by the rise in overhead costs from .66 cents per pound in the 200–299 thousand pound group, to .70 cents in the 300-399 thousand pound group. Another reason for the higher cost in the fourth group was the increase in head office charges due to a greater number of branch factories in this group.

The cost of manufacturing in the 78 plants averaged 3.45 cents, the average production being 350,500 pounds. Thirty plants in Alberta with an average production of 316,303 pounds had a cost of 3.56 cents per pound butter. The average production in twenty-five Saskatchewan plants was 404,178 pounds and the cost 3.47 cents. The cost in Manitoba was 3.28 cents in 22 plants producing an average of 336,757 pounds of butter. Overhead and administrative costs were much lower in Manitoba than in the other two provinces. The greater volume of production in Saskatchewan brought costs per unit in this province lower than those in Alberta.

***Transportation Costs.***—Cream transportation costs for factories of various sizes are shown in Table 2. About one-third of the cream going to creameries was trucked, one-third expressed, and the remainder delivered by the producers. In very small factories producers delivered about 60% of the total cream received by the factories while in larger factories only 25% was delivered and 75% was either trucked or expressed to the creamery.

The cost of trucking in most cases was over 2 cents per pound butter fat and averaged 2.25 for all cream trucked. The cost of expressing cream averaged 1.74 cents per pound butterfat. Cartage charges on cream delivered by express averaged .05 cents per pound butterfat. The cost of trucking, railway express and

Table 2.—Cost of Transporting Cream

| Size of factory (1,000 lbs. butter) | Percentage of butterfat | | | Cost per lb. B.F. | | Total transport (2) cost | |
|---|---|---|---|---|---|---|---|
| | (1) Trucked | Expressed | (1) Delivered | Trucking | Expressing | Butterfat transported | Butterfat used |
| | | | | | | per lb. | per lb. |
| Under 100 | 16.6 | 22.6 | 60.8 | 2.66 | 1.66 | 2.14 | 0.84 |
| 100–199 | 18.4 | 23.9 | 57.7 | 1.86 | 1.66 | 1.81 | 0.76 |
| 200–299 | 32.1 | 24.2 | 43.7 | 2.32 | 1.45 | 2.00 | 1.11 |
| 300–399 | 33.3 | 33.5 | 33.2 | 2.22 | 1.61 | 1.98 | 1.37 |
| 400–499 | 28.1 | 45.4 | 26.5 | 2.25 | 1.46 | 1.84 | 1.29 |
| 500 and over | 33.9 | 42.1 | 24.0 | 2.27 | 1.97 | 2.25 | 1.66 |
| All factories | 31.3 | 34.8 | 33.9 | 2.25 | 1.74 | 2.08 | 1.37 |

(1) "Delivered" means hauled to factory by the producer while "Trucked" means hauled by hire at the factory owners' or producers' expense.

(2) Total cost of transportation includes cost of trucking, express, cartage and bonuses paid on delivered cream.

cartage amounted to 2.08 cents per pound butterfat on all cream so handled. The total charge divided by all cream used in the manufacture of butter amounted to 1.37 cents per pound butterfat.

***Return to Producer and Factory.***—The producers of butterfat received about 70% of the factory value of the butter. The percentage return did not vary materially between factories of various sizes.

The return to producers in factories producing under 100,000 pounds of butter was only 14.40 cents per pound butterfat compared to 15.51 cents in factories producing 200–299 thousand pounds and 15.36 cents in plants with a production over one-half a million pounds. Cream gathering costs were much higher in the larger plants causing the total cost of butterfat at the plant to be high. However, manufacturing costs were much higher in the smaller factories so that the total cost of producing butter did not vary greatly between plants of different sizes. When selling costs were deducted from selling prices, the price of butter at the factory was 22.10 cents in the largest creamery group and 20.29 in the smallest group. Selling costs include printing charges, freight on butter, storage, selling commissions, bad debts and advertising. The largest creameries made the most profit per pound butterfat, while those in the second and third groups made the next highest profits. The group under 100,000 pounds had a loss of 1.09 cents per pound butterfat.

TABLE 3.—RETURN TO PRODUCER AND TO FACTORY PER POUND OF BUTTERFAT

| Return or cost per pound butterfat | Size of factory (1,000 pounds of butter) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Under 100 | 100–199 | 200–299 | 300–399 | 400–499 | 500 and over | All factories |
| | | | (Cents per pound) | | | | |
| Net to producer | 14.40 | 15.09 | 15.51 | 15.23 | 15.24 | 15.36 | 15.31 |
| Hauling and express | .82 | .74 | 1.09 | 1.33 | 1.24 | 1.59 | 1.32 |
| Cartage | .02 | .03 | .02 | .04 | .05 | .07 | .05 |
| Commission on cheques | .22 | .21 | .15 | .16 | .23 | .21 | .19 |
| Total cost butterfat | 15.46 | 16.07 | 16.77 | 16.76 | 16.76 | 17.23 | 16.87 |
| Manufacturing cost | 5.92 | 4.72 | 4.29 | 4.42 | 4.06 | 3.91 | 4.21 |
| Total cost of butter | 21.38 | 20.79 | 21.06 | 21.18 | 20.82 | 21.14 | 21.08 |
| Selling price | 20.66 | 22.15 | 22.24 | 21.98 | 21.54 | 23.20 | 22.46 |
| Less selling cost | .37 | .70 | .76 | .61 | .47 | 1.10 | .82 |
| Selling price at factory | 20.29 | 21.45 | 21.48 | 21.37 | 21.07 | 22.10 | 21.64 |
| Profit or loss | −1.09 | .66 | .42 | .19 | .25 | .96 | .57 |
| Percentage factory price returned to producer | 71.0 | 70.4 | 72.2 | 71.3 | 72.3 | 69.5 | 70.8 |
| Number of factories | 4 | 14 | 22 | 19 | 5 | 14 | 78 |

Among the factories producing less than 100,000 pounds, producers received .91 cents per pound butterfat less than the average; the cost of manufacture was 1.71 cents higher than the average; returns were 1.35 cents less per pound butter on a butterfat basis and large deficits were shown. In the group manufacturing 100–199 thousand pounds of butter, producers received .22 cents less than the average for butterfat but factory returns were slightly above the average. Factories in the third group paid producers more than those in other groups but received less profit than the average. In the next three groups, higher costs of cream transportation offset to a large degree the lower costs of manufacture brought about by greater volume. The largest factories, however, paid more than the average for butterfat, had much higher cream transportation costs and received the highest profit. This was accomplished through lower manufacturing costs and higher returns for butter.

## THE UNITED FRUIT COMPANIES OF NOVA SCOTIA, LIMITED, AND SUBSIDIARY COMPANIES

A. E. RICHARDS[1]

The United Fruit Companies of Nova Scotia, Limited were formed in 1912 by special Act which provided for the federation of local co-operatives under a central selling agency. The original 22 locals increased to 50 and the company in its peak years handled about 42% of the commercial production of the Province. Of the 50 local warehouses, three are out of business today; the central company has taken over the business of two locals; and six locals, while still shareholders in the United, ship their fruit independently. Today it is estimated that the United handles about 25% of the exported fruit.

Affiliation between the central company and locals seems quite loose and patronage is maintained through service rendered. There is no contract binding the local to ship through the United Fruit Companies except in a few cases where the local is heavily in debt to the central. Some of the subsidiary companies use the facilities of the United Fruit Companies when it is to their advantage in buying supplies but enter into competition with the parent company in the marketing of fruit. According to the by-laws of the companies, they are supposed to be bound to ship through the central company but this clause has never been enforced. For the most part the subsidiary companies which are shipping independently have young and agressive types of managers and are financially independent of the United Fruit Companies.

There was a general pool of returns on fruit shipped through the United Fruit Companies up to the season 1923-24. Some locals claimed they were being handicapped by pooling returns with the inefficient packing house. The system was changed at that time to separate pools for each local.

The function of the central company is to sell the fruit packed by the local. It arranges for cars, space on the steamer, and looks after billing and insurance. It does the actual selling, receives account sales and works out returns on grades and varieties for each local warehouse. It looks after telegrams and cables, and maintains an overseas representative. A deduction of 5 to 7 cents per barrel of apples handled is made to cover this expense. For the season 1933-34 the deduction amounted to 6 cents, with a rebate of 1 cent.

CHARGES TO GROWER PER BARREL OF APPLES SHIPPED FROM PORT WILLIAMS, N.S., AND CONSIGNED TO A BROKER IN LONDON, ENG., SEASON 1933–34, STERLING RATE AT PAR

| | $ | $ |
|---|---|---|
| Barrel, average cost to grower | | .30 |
| Local packing house charge | | .22 |
| Sales agency expenses: | | |
| Rail Port Williams to Halifax | .155 | |
| Insurance | .01 | |
| Inspection | .015 | |
| Head Office (United Fruit Co.) | .05 | |
| Total | | .230 |
| Overseas expenses: | | |
| Ocean freight | .5725 | |
| Consolidated charges* | .426 | |
| Broker's commission at 3% on gross sales value of $3.30 | .099 | |
| Advertising | .005 | |
| Sampling | .008 | |
| Total | | 1.110 |
| Total Charges | | 1.860 |

*Consolidated charges include dock, wharf and port charges, warehousing, sorting, sale expenses, delivery, etc.

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[1] Agricultural Economist, Economics Branch, Department of Agriculture, Ottawa.

Apples were consigned to about 35 brokerage firms in the United Kingdom in 1933-34. About 65% were sold by auction and the balance by private treaty. Sales to the Continent were direct on a F.O.B. Halifax basis. Below is an itemized list of charges to the grower on a barrel of apples shipped from the province of Nova Scotia to the overseas market.

All overseas charges are paid by the consignee and deducted from the sales price. An account sales, usually with cheque for net proceeds attached, is forwarded by consignee to the United Fruit Companies. Here the sales agency expenses are deducted and the statement forwarded to the packing house. The packing house takes off its charge for packing (which varied among packing houses from 15 cents to 25 cents in 1933-34) before return is made to the grower. The packing house does not supply the package. Out of his return from the packing house the grower must pay for the barrel which in 1933 cost him 30 cents on the average.

The United Fruit Companies acts as a wholesale supply house for its member locals and carries on a considerable trade outside its own companies. The general practice seems to be to advance supplies to member locals in the spring of the year, consisting mainly of fertilizer and spray material. This is carried as a book account without interest and deducted from the apple account of the local in the fall when proceeds from sale of fruit come in. These proceeds in turn are used to reduce accounts payable by central.

***Sales and Distribution.***—Sale of fruit and factory products by the United Fruit Companies in 1933-34 amounted to over $1,300,000 and sales of supplies to slightly over $320,000. The total number of barrels of apples handled amounted to 696,504 of which 638,447 or 91·7% were shipped to markets and 58,057 or 8.3% were turned into by-products. Of the total shipped to market, 36,799 barrels or only 5.8% were sold in Canada. Of the total export shipments, 496,567 or 82.5% went to the United Kingdom. During the past few years the United Fruit Companies has handled approximately 25% of the apples exported from the province. Below is a summary of shipments as appearing in the report of the twenty-second annual meeting of the Company.

DISTRIBUTION OF APPLE SHIPMENTS MARKETED BY UNITED FRUIT COMPANIES OF NOVA SCOTIA, LIMITED, SEASON 1933–34

| | Barrels | Half barrels | Boxes and hampers | Equal in barrels |
|---|---|---|---|---|
| *United Kingdom* | | | | |
| London | 165,536 | 10,236 | 554 | 170,839 |
| Liverpool | 119,279 | 605 | 62 | 119,602 |
| Manchester | 93,091 | 365 | 1 | 93,274 |
| Glasgow | 30,098 | 49 | 1 | 30,122 |
| Cardiff | 35,830 | 252 | 291 | 36,053 |
| Bristol | 13,442 | | | 13,442 |
| Newcastle | 22,787 | 36 | 2 | 22,806 |
| Hull | 6,220 | | | 6,220 |
| Southampton | 4,011 | | | 4,011 |
| Belfast | 200 | | | 200 |
| Total to United Kingdom | 490,494 | 11,543 | 911 | 496,569 |
| *Outside United Kingdom* | | | | |
| Continental Europe | 100,820 | | | 100,820 |
| Palestine | 110 | | 10 | 113 |
| Alexandria | | 12 | | 6 |
| Newfoundland | 3,293 | 30 | | 3,308 |
| Bermuda | 841 | | | 841 |
| Local Sales | 36,290 | 749 | 375 | 36,790 |
| Total to all markets | 631,848 | 12,334 | 1,296 | 638,447 |

***Manufacture of Fruit Products.***—The United Fruit Companies of Nova Scotia Limited are engaged extensively in the manufacture of fruit products. Of the total volume of the 1933 crop handled, 8.3% was turned into fruit products in the form of canned and dehydrated apples, vinegar and cider. In the Union Dehydration plant at Port Williams, 457,770 pounds of evaporated apples were manufactured using in the operation a total of 37,100 barrels. The greater portion of the manufactured product was sold in Germany. A number of car loads were also shipped to England and the balance of the stock was sold on the local markets. All of this product was sold before June at a profitable price and additional orders could not be filled. The factory at Aylesford used the following quantities of raw products in the different manufactured lines: apples 20,597 barrels, pears 948 barrels, plums 342 bushels and string beans 18,626 pounds.

***Supplies.***—In its endeavour to supply materials at a lower cost to its members and as a check on private trading, the Co-operative has shown initiative and enterprise. It constructed a plant for the manufacture of lime sulphur in which 102,920 gallons of this product were made in 1933. In another plant dust insecticides are being manufactured and large quantities of spray materials are purchased in wholesale quantities which are supplied to locals at cost. Twenty-three different spray material items were handled which in total quantity amounted to 358 gallons, 2,573 barrels and 1,630 tons. Other supplies handled included 3,448 barrels of flour, 23,253 bags of feed, 3,000 bags of seed oats and a considerable quantity of coarse grains and small seeds. Sundry merchandise included apple graders, shingles, roofing, fruit wraps, spray hose, fibre board, nails and two million pulpheads.

***The Financial Statement.***—The financial statement of the United Fruit Companies of Nova Scotia Limited for the year ending May 31, 1934, shows total assets amounting to $270,163 of which $81,218 are invested in plant and equipment and $177,316 are included under the item of current assets. Liabilities to the public amounts to $217,308 which contains the large item of $104,711 in accounts payable. At the end of May when the financial statement is prepared relatively heavy commitments for fertilizer, spray material and other orchard supplies have been made and bank loans have been incurred for financing. At another season of the year accounts receivable, bank loans and accounts payable would probably be considerably reduced and would not appear so ominous. The gross operating margin for the year amounted to $41,559 out of which expenses of $40,506 were paid leaving a net operating income for the year of $1,053 which was transferred to surplus account. Notes of subsidiary companies on May 31, 1934, shown as indirect liability in the Balance Sheet of the United Fruit Companies amounted to $149,198.00. In general these notes are for 3 months. The local pays the interest and looks after renewal.

***Central Company and Local Relationship.***—Poor management was responsible for bad financial conditions of a number of locals. Managers in past advanced supplies and cash to members on too liberal a scale. Some of this was used for other purposes than financing the crop. The grower was unable to settle his account and there was a gradual accumulation of such accounts on the books of companies. The banks shut down on further credit direct to growers or to companies. For the carryover of debts and for fresh advances of supplies, banks demanded the personal guarantee of Directors of locals and endorsation of the Central Company. Out of the situation grew the present practice of giving a promissory note signed by the Directors to the Central company for supplies advanced. The note is in turn endorsed by the United Fruit Companies and discounted at the bank.

The United Fruit Companies does more than sell apples for its subsidiaries, it is a banking institution. It is probably too kind to its locals, but has under present management been supporting the weaker companies, holding locals in check and gradually improving their position. Subsidiary companies' directors paper under discount has been reduced from over $230,000 in 1928 to $149,198. The parent company absorbs many charges for the locals. In order to get apples properly grown and of the right grade it has to furnish fertilizer, spray material and other supplies. These advances are carried as current book accounts in many cases for five or six months for the locals without interest. The central company gets advances on apples from overseas brokers which in turn are advanced to locals. The United Fruit Companies absorbs all interest charges which have become an extremely heavy item of expense.

Many of the companies which drifted into heavy indebtedness are under new management since 1928 or 1930 and are showing gradual improvement, but there is still a need for more definite and systematic debt reduction.

## FINANCIAL STATEMENTS

W. F. CHOWN[1]

An adequate record of cash transactions is a necessity in the preparation of the Income and Expenditure Statement. For this purpose, it is highly desirable to cultivate the habit of securing a voucher for each transaction at the time it takes place. These should be fyled in some orderly fashion. Statements and account sales rendered by companies to whom products are sold or shipped, and invoices for purchases are good vouchers. A receipt should be given when money is received and the particulars entered on the stub. When payments are made by cheque, the stub should be completed. Failing the foregoing, pencilled memoranda are useful and a pad and pencil in the barn or the time-honored kitchen calendar have their place in building up an adequate record but do not in themselves make up that record. From these original records, the cash book should be written up as frequently and regularly as possible by the farmer, his wife, son or daughter.

Personal expenses have no part in the farm accounts. Because it is seldom possible for the farmer to keep personal and farm money separate, a system of family budgeting, where a definite amount each week, or the proceeds of the cream cheque, or egg and poultry receipts or both are handed over to the wife, simplifies this difficulty.

For the individual having a bank account, it will probably be satisfactory to consider this and cash together. For the business being operated for others by a manager, all receipts should be deposited in the bank intact and all payments made by cheque.

A Farmer's Account Book may be obtained from the Publicity and Extension Branch, Department of Agriculture, Ottawa, at the nominal charge of ten cents. It contains detailed instructions for account keeping during the year and for closing the accounts at the end of the year. It is quite simple and wholly adequate for the average farmer.

***The Columnar Cash Book.***—For farms operated by managers, farmer's clubs, co-operatives and those individual farmers, who are anxious to keep exact records, a columnar cash book is recommended. A columnar book may be purchased with the desired number of columns, or an ordinary note book may be ruled as required. The purpose of such a book is to classify receipts and payments into whatever groupings are desired. This is achieved by having a separate column for each class of transaction that occurs with any frequency and a sundry column for such transactions as do not recur. Receipts should be recorded on the left hand page and payments on the right. If it is desired to subdivide payments to an extent greater than can be accommodated on one page, receipts can be recorded in one part of the book and payments in another, spreading the latter over two pages. The columns may be totalled at any time showing the receipts and payments to date.

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[1] Accountant Examiner, Economics Branch, Department of Agriculture, Ottawa.

The first entry on the receipts page will be the balance brought forward and so the difference between receipts and payments at any time should equal the cash on hand. The book and cash should be balanced as regularly as possible. Where it is not in balance, the amount of the difference will usually suggest some transaction that has been omitted. Further arithmetical proof of accuracy can be obtained by cross-adding the totals of each page. The totals of the distribution columns should equal the total of the cash column.

***Columnar Cash Book Illustrated.***—The following examples could be varied to meet most any requirement, and in particular might be arranged by departments as Cattle, Hogs, Poultry, Crops. For the individual, a column for personal payments would be added.

CASH RECEIPTS

| Date | Particulars | Sundry Cr. | Milk Cr. | Cream Cr. | Eggs Cr. | Live Stock Cr. | Crops Cr. | Cash Dr. |
|---|---|---|---|---|---|---|---|---|
| 1934 | | | | | | | | |
| April 1 | Balance brought forward | 625.00 | | | | | | 625.00 |
| 3 | Creamery March 15–31 | | | 3.00 | | | | 3.00 |
| 10 | Dairy March milk | | 80.00 | | | | | 80.00 |
| 15 | Store 20 doz. @ 20c. | | | | 4.00 | | | 4.00 |
| 16 | Drover 1 veal calf | | | | | 8.00 | | 8.00 |
| 17 | Neighbor 30 bus. barley | | | | | | 24.00 | 24.00 |
| 20 | Township 3 days roadwork | 15.00 | | | | | | 15.00 |
| 1935 | | | | | | | | |
| March 31 | Store 10 doz. @ 21c. | | | | 2.10 | | | 2.10 |
| | Total | 700.00 | 1,100.00 | 55.00 | 65.00 | 250.00 | 180.00 | 2,350.00 |

CASH PAYMENTS

| Date | Particulars | Sundry Dr. | Wages Dr. | Repairs Dr. | Milk cartage Dr. | Feed and seed Dr. | Harvest expense Dr. | Cash Cr. |
|---|---|---|---|---|---|---|---|---|
| 1934 | | | | | | | | |
| April 2 | Blacksmith | | | 3.00 | | | | 3.00 |
| 6 | Seed merchant, 2 bus. clover | | | | | 30.00 | | 30.00 |
| 11 | Trucker 4700 lb. @ 30c. | | | | 14.10 | | | 14.10 |
| | Implement dealer—seed drill | 170.00 | | | | | | 170.00 |
| 30 | Manager | | 40.00 | | | | | 40.00 |
| | Hired man | | 20.00 | | | | | 20.00 |
| 1935 | | | | | | | | |
| March 31 | Balance on hand | 114.50 | | | | | | 114.50 |
| | Total | 1,021.90 | 806.00 | 43.00 | 194.10 | 220.00 | 65.00 | 2,350.50 |

***The Cash Account.***—The analysis of the Sundry Payments column is as follows:— Fertilizer $40.00, Phone $20.00, Insurance $30.00, Taxes $150.00, Seed Drill $150.00, Horse $150.00, Mortgage Interest $240.00, and Miscellaneous $107.40. The following statement can be prepared to summarize the year's cash transactions.

THOMAS BROWN

STATEMENT OF RECEIPTS AND PAYMENTS
*for the year ending March 31, 1935*

| | | | |
|---|---|---|---|
| Balance on hand, April 1st, 1934, | $ 625.00 | Wages, | $ 806.00 |
| Milk | 1,100.00 | Repairs, | 43.00 |
| Cream, | 55.00 | Milk cartage, | 194.10 |
| Eggs, | 65.00 | Feed and seed, | 220.00 |
| Live stock, | 250.00 | Harvest expense, | 65.00 |
| Crops, | 180.00 | Fertilizer, | 40.00 |
| Miscellaneous, | 75.00 | Phone, | 20.00 |
| | | Insurance, | 30.00 |
| | | Taxes, | 150.00 |
| | | Mortgage Interest, | 240.00 |
| | | Purchase of seed drill, | 170.00 |
| | | Purchase of horse, | 150.00 |
| | | Miscellaneous, | 107.40 |
| | | Balance on hand, March 31, 1935, | 114.50 |
| | $2,350.00 | | $2,350.00 |

***Limitations of Cash Statement.***—The cash statement, while required by statute for insurance companies and usually for municipalities, is of very little accounting value. It fails to show the income earned during the period or the expense incurred earning that income and the resulting profit or loss. Its usefulness is limited to non-profit organizations, which own no property and do not use or extend credit such as the smaller farmer's clubs. Complete cash records are very essential, however, in the preparation of the Income and Expense statement.

## ECONOMIC RESEARCH IN PROGRESS

The Economics Branch of the Dominion Department of Agriculture has six major research projects under way at the present time. The majority of these studies are carried on co-operatively with other Branches of the Dominion Department or in co-operation with Provincial Departments and Universities.

An example of research in marketing is found in the analysis of operating costs of creameries in the Prairie Provinces which is discussed in more detail elsewhere in this issue of the Annalist and which need not be discussed further in this article.

Another type of marketing research is that of the analysis of consumer demand for cheese and milk. This work is now being carried on in Quebec City, Oshawa, Ontario, and Calgary, Alberta. In these cities, representatives of the Branch are calling on substantial numbers of housewives, proprietors of hotels and restaurants for the purpose of securing data regarding kinds of cheese consumers prefer, what packages are preferred, what factors tend to decrease or increase consumption, how cheese is served in homes, and other factors which influence the demand for cheese. Similar data are being obtained in regard to milk. When analysed, these data will provide valuable information for housewifes, retail stores, restaurants and hotels as well as producers and distributors of these products. A knowledge of consumer preferences is essential in any marketing program and these studies provide suca basis.

This project is being carried on in co-operation with the Dairy Branch at Ottawa. In Quebec, the Rural Economics Service is assisting in obtaining the data. In the other provinces, provincial officers are aiding the project through their personal knowledge of local conditions and in facilitating the collection of the records.

For several years past, this Branch has been collecting data regarding Farmers' Business Organizations. Such data include the nature of the business, volume of sales, operating expenses, form of organization, number of members, capital structure and other pertinent facts. Comparative efficiency of operation has been analyzed in dairy marketing concerns and in fruit companies. Much factual data has been compiled which is constantly in demand by those interested in the program of such organization as well as others. In the Provinces of Quebec, Ontario and Saskatchewan, this work is conducted in co-operation with Provincial Departments but in all the other Provinces, the Economics Branch makes direct contact with the organizations.

Another type of study is under way in the St. John Valley of New Brunswick where 200 potato growers have co-operated with the New Brunswick Department and the Branch in securing data which will provide information on expenses of production, farm receipts, utilization of land, cropping practices and organization of the farms. Thus, much helpful information is anticipated which should be of assistance in making any necessary adjustments in production in this area.

In Western Canada, two land utilization projects are under way. Both of these studies bear a direct relationship to the drought areas and an effort is being made to relate farm practices and income to soil type. With this in mind, the economic survey and soil surveys are being linked up. This work is part of the whole program of rehabilitation in the Prairie Provinces and part of the funds for these studies is provided for under the Prairie Farm Rehabilitation vote.

In Alberta, data have been secured from 500 farms situated between Vulcan, Lomond, Wheat Centre, Vauxhall and Barrons. These records include crop history, yields, prices, farm receipts, expenses, indebtedness, carrying capacity of grazing land, size of holdings, abandonment and its causes. Besides these, municipal receipts and expenditures, assessments, tax arrears and relief expenditures are being analysed. Thus, the economic possibilities of an area may be appraised for agriculturel purposes and a policy of land utilization evolved.

In this project, the University of Alberta is a co-operating agency. The general direction of the study is effected through a committee of Dominion Department of Agriculture and Alberta Government officers.

In Saskatchewan, a somewhat similar study was initiated by the Department of Farm Management at the University. The Economics Branch joined forces with the University and as a result, 800 farmers have contributed information on an area surrounding Chaplin, Coderre, Gravelbourg, Shamrock, Lafleche, Wood Mountain and Glentworth. These two studies in the Western Provinces are sectional but provide a very complete cross section of larger areas.

One of the older sections of the country is Antigonish County, Nova Scotia. At the request of the College of Agriculture at Truro, the Economics Branch has assisted in planning and carrying into effect a project which includes both economic and social problems. In many respects, it represents an effort of a community to help itself for various agencies are co-operating in carrying the project into effect. Besides the two research bodies already mentioned, St. Francis Xavier University has been active in its support. Municipal officers have assisted in deciding upon what problems should be studied and in providing·data for analysis for research agencies. Already 150 records have been obtained from farmers in the Heatherton, St. Andrews and Pomquet areas which will enable analysis of farm business enterprises including part-time farming. Information is being secured not only regarding agriculture but also with respect to local industries which are dependent upon or related to the agriculture of the area.

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G. H. Craig, C. C. Spence, I. S. MacArthur and G. Boucher have been appointed Field Assistants, Economics Branch, Department of Agriculture, Ottawa. Messrs. Craig and Spence are engaged in land utilization work in Alberta and Saskatchewan respectively, Mr. MacArthurer in a study of potato production in New Brunswick, and Mr. Boucher in an analysis of consumer demand for cheese and milk in Quebec City.

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***Erratum.***—In the June issue of the Economic Annalist, an error occurred which should be corrected. On page 29, reading from the bottom of the page, line 12 reads "by more than 10% per annum," this should read "by more than 1% per annum."

## SUBSIDIARY CREDIT CORPORATION OPERATED BY CO-OPERATIVE

The Co-operative Grange League Federation, commonly called the G. L. F., is a successfully operated farmers' co-operative functioning throughout the area covered by the New York City milk shed. It was created in 1919 by the amalgamation of farmers' forces as expressed in The Grange, the New York Dairymen's League and the Federal Farm Bureau Federation, It functions primarily as a consumers' co-operative handling feed, seed, fertilizer, binder-twine, paint and spray materials; it is also a producers' marketing co-operative merchandising locally-produced farm products such as beans, eggs, grain and hay. It serves 110,000 patrons and in 1934 conducted a business turnover of above 20 millions of dollars. It reaches its patrons by means of 132 G. L. F. service stores and 570 G. L. F. agencies. The business is conducted through the co-operative G. L F. Holding Corporation and four subsidiaries, the G. L. F. Mills, the G. L. F. Marketing Corporation, the G. L. F. Credit Corporation and the G. L. F. Products Corporation.

***Operate on Cash Basis.***—The work of the Co-operative G. L. F. Credit Corporation has made it possible during the depression years to change from a policy wherein much business was done on a credit basis to one wherein all business is conducted on a cash basis.

Statements of the organization show that in 1930–1931 prior to the adoption of the cash policy, it cost 73 service stores as much money to handle their credit as it did the G. L. F. to pay a 6% dividend on its total capital stock. Their executives state that no business giving credit can avoid these costs which, if the business is to remain solvent, must be borne unjustly by those who pay their bills. This corporation deals with a form of credit which is not associated with buying or selling but which is a transaction in itself. Money is loaned to individual farmers on the basis of financial statements which set forth the personal assets and liabilities of the prospective borrower. An application with the statement attached is sent to the office of the Credit Corporation. A check-up of the character and ability of each applicant is made through key men in each community. If the reports concerning the applicant are satisfactory and the officers of the credit corporation approve, the application is endorsed by the corporation and forwarded to the Federal Intermediate Credit Bank at Springfield. The application is again considered at this point and, if approved, the amount of money less interest in advance is forwarded to the credit corporation and then passed on to the borrower.

These credit corporations are merely companies incorporated under the laws of the state with power to make loans to farmers and to rediscount these loans with the federal intermediate credit banks. The intermediate credit banks get their funds by selling their debenture or notes on the money market.

This method of securing credit has been used by thousands of G. L. F. patrons. Loans will only be made for wise productive expenditure. It puts the borrower in a position to pay cash. He secures the advantage of volume buying, is not forced to sell products in distressed markets and he can finance larger operations.

## THE ELEVENTH AMERICAN INSTITUTE OF CO-OPERATION

The American Institute of Co-operation held its eleventh annual session at Cornell University, Ithaca, N.Y. July 15th to 20th. Over one thousand persons registered at the Conference which was declared one of the most successful in the history of the Institute. At this important educational gathering, co-operative leaders from many parts of the world were represented.

The dominant note of the Institute this year was how to improve the business practices of co-operatives. Eleven comprehensive topics embracing subjects of vital importance to co-operative leaders and workers were chosen for discussion. Group meetings were held concurrently under a chairman and discussion leader. The instructional method was followed. Lectures were the feature of the morning sessions which were co-ordinated under a leader with general discussion in the afternoon.

Among the topics under discussion were: *Co-operative publications, egg marketing, membership relations and field service, problems of dairy marketing, efficient management* *of retail service for farmers, the practical application of the philosophy of co-operation, business management for co-operative associations, co-operative credit for farmers and co-operatives,* and *marketing fruits and vegetables.*

The afternoon and evening sessions of the last two days were devoted largely to a conference of monetary policies. Dr. G. F. Warren of Cornell University opened the program with a lecture on "The Relation of Supply of and Demand for Gold to Commodity Prices." This was followed by two papers on "Monetary Policies and their Effects upon Prosperity in Various Countries" by Professor O. M. W. Sprague, Harvard University and Professor J. H. Rogers, Yale University. The international monetary situation was discussed by James David Mooney, President of the General Motors Export Company. Mr. J. D. Barnum, President of the American Newspaper Publishers Association, presented "How a Publisher Looks at the Agricultural Co-operative Movement." Judge J. D. Miller, President of the National Co-operative Council, spoke on "The Philosophical and Legal Background of the Co-operative Movement in the U.S.A." Mr. H. E. Babcock, Manager of the Co-operative Grange League Federation Exchange discussed the scope of the co-operative movement in the U.S.A. At the final conference under the chairmanship of Mr. Harper Sibley, President of the United States Chamber of Commerce, Dr. Lionel D. Edie presented a paper on "International Stabilization."

Space will not permit a discussion of the papers which are printed in full in the Institute Proceedings.

Recent statistics show 10,900 farmers' co-operatives in the United States which in 1934 had 3,156,000 members and handled approximately $1,365,000,000 worth of business. The Institute may be regarded as a college for the exchange of experiences by trained leaders and students who are working and interested in the school of co-operative thought and endeavour. This school may be divided into two groups, the operating group and the philosophic group. The recent conference was largely an operating group program. Practical questions of business management, operating costs and net savings were discussed.

## ECONOMIC LITERATURE

**CORBETT, R. B. A study of the Costs and Returns from Grading Vegetables. Bulletin 249, Agricultural Experiment Station, Rhode Island State College, Kingston, Rhode Island.**

The New England States were fearful for their vegetable market because of out-of-area competition. To meet the situation, it was decided to grade the local products to a standard above normal farm grades and thus save their markets for themselves. Standards were fixed and some growers became skeptical of their utility. This led to a study of the situation during the crop years of 1930 and 1931 with the result as published in this interesting 48-page bulletin. The general conclusions of the study would indicate that the law of diminishing returns appears to apply in connection with the grading of certain vegetables. The products selected for study were hothouse tomatoes, field tomatoes, bunched beets, bunched carrots, cucumbers and peppers. The grading and packing of all of these products were done under the usual practical and competitive conditions on the farm. Costs were made up almost entirely of labour and packages, since no special buildings or equipment were used.

The products which had been rigidly graded usually commanded a higher price than the normal farm graded produce but in most cases, the cost of packaging was greater than the additional return secured.

Crops which had been excellently grown gave some encouragement to the rigid grading as there were few culls, requiring a small amount of extra labour to grade to a high standard. More important still was the small percentage of the product which had to be sold at low prices as seconds or culls. With the crops studied, several pickings, pullings or cuttings were necessary before the entire crop was harvested. As the season advanced, there was a great reduction in the percentage of the crops harvested which met the rigid grade requirements. Only a few buyers were interested in highly graded and carefully sized bunched beets and carrots to the extent of paying premium prices. In some cases, these products fetched lesser prices than the farm graded products. Rigid grading apparently yielded its best results on a relatively over-supplied market and with the higher priced commodities, such as tomatoes and peppers.

The author states that the study has been criticized because only one set of standards was used and states that a single set of standards applied to different crops gives as many situations as there are crops.

In both years, the receipts of shipped in tomatoes ceased entirely during much of the local season. The price also fell rapidly as the local supply increased rising again as the local supply disappeared. The price appears to have been so low during the local season that the out-of-area shipper was eliminated.

## NOTES

A. W. Street, Ministry of Agriculture and Fisheries, speaking at a Conference of Agricultural Organizers held at Cambridge, June 26th, 1935, said in part "Even if, faced as we are with so many practical difficulties, we were tempted to feel despondent of the future, we should find good cause for encouragement by noticing the extent to which the principles underlying our program of marketing reorganization are being applied elsewhere. New South Wales and Queensland have for some years had a system of State marketing boards for primary commodities in many ways analogous to our own. New Zealand has successfully regulated the export of a large number of primary commodities through Dominion Produce Boards, and, in consequence of the report of the recent Dairy Produce Commission, appears to be moving towards a much more direct regulation of production, processing and marketing both locally and for export. But perhaps the most interesting recent development in the Dominions has been the formation in Canada of a Dominion Marketing Board under the terms of the Natural Products Marketing Act, 1934. The Dominion Board is the co-ordinating and controlling authority for provincial and federal marketing organization with powers either to accept schemes put forward by producers or itself to initiate schemes. Already, parallel Provincial Marketing Acts have been passed in most of the Canadian Provinces, and a number of important schemes have been brought into operation. But the powers of the Dominion Marketing Board go beyond the organization of primary marketing, for it may investigate costs of production, wages, and wholesale and retail margins, while the control of import, export and interprovincial trade is also envisaged. It is evident that Canada intends to move far and fast in the direction of organizing agriculture and the distribution of foodstuffs."

Officers of the Canadian Society of Agricultural Economics elected at the annual meeting held at the University of Edmonton, June 24–27, were as follows:— President, H. C. Bois, Rural Economics Service, Department of Agriculture, Quebec City; Vice-President, T. W. Grindley, Agricultural Branch, Dominion Bureau of Statistics; Secretary-Treasurer, J. Coke, Economics Branch, Department of Agriculture, Ottawa; Committee, W. M. Drummond, Department of Economics, University of Toronto, Toronto, Ontario; F. W. Reinoehl, Canada Colonization Finance Corporation, Winnipeg, Manitoba; C. M. Collins, Agricultural Representative, Lawrencetown, Nova Scotia; and E. C. Hope, Department of Farm Management, University of Saskatchewan, Saskatoon, Saskatchewan.

The Canadian Wheat Board is composed of the following members: John I. MacFarland, Winnipeg, Chairman; D. L. Smith, Winnipeg and Dr. H. C. Grant, University of Manitoba. An advisory Committee representing farmers, the grain trade, and milling interests has also been appointed. C. B. Davidson, formerly of the Agricultural Branch, Dominion Bureau of Statistics, Ottawa and a member of the Dominion Marketing Board has been appointed Secretary.

# The
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED QUARTERLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
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## THE ECONOMIC SITUATION

Wholesale prices in Canada reached a higher level in October than in any month since April, 1931. The index of vegetable products advanced from 67.2 in September to 68.5; that of animals and their products rose from 72.0 to 73.5. Indexes of fibres, textiles and textile products, non-ferrous metals and their products, and chemicals and their products also registered gains. The index of iron and its products was unchanged, while wood, wood products and paper, and non-metallic minerals and their products were slightly lower. Wholesale prices generally have shown a rather sharp advance since August.

***Retail Prices.***—Retail prices were also higher in October, the index rising to 80.4. The highest point reached since September, 1932. The index of retail prices of food rose from 70.9 in September to 72.4, and both the fuel and rental indexes were higher than in the previous month. Retail prices appear to have been rising somewhat slowly but steadily since last July.

***Physical Volume of Business.***—The index of the physical volume of business is available only for the nine months of the year but the monthly index for September was 101.9 compared with 107.9 in August, which was the highest point registered. It will be observed, however, that this index has not been lower than 97.5 which was recorded in January. It is therefore understandable that the high level reached in August should not be maintained in the month of September. The index of industrial production also registered a loss in September, falling to 102.5. Mineral production was also below that of August. In only one group, lead production, was the index higher than in August. Shipments of both gold and silver were materially lower. The index of manufacturing showed relatively less decline, that for August being 102.7 compared with 100.0 in September. In the foodstuffs group there was an actual gain of 6.6 points, one of the interesting developments being a sharp rise in exports of cheese from Canada. Another gain was shown in the iron and steel index which rose from 133.5 to 161.5. The construction index which reached 69.8 in August, the highest point since the beginning of the year, receded to 52.1. Contracts awarded dropped from 82.0 to 59.9. Building permits showed a slight reduction and the cost of construction was little changed. Electric power output was slightly lower. Trade employment showed improvement but car-loadings, exports and imports were lower. Among the Agricultural factors grain and live stock marketings were lower. This was attributable to relatively less grain moving than in the previous month, the index of wheat marketings falling from 202.5 to 128.0. The index of live stock marketings rose from 86.6 to 90.2. This was due to larger shipments of cattle and calves. There was little change in storage holdings compared with the previous month. October indexes added since the foregoing was written show an upturn.

***Prices of Agricultural Products.***—The index of wholesale prices of Canadian farm products was 65.8 in October. This is the highest point reached since November, 1930. The index of prices of field products advanced from 58.3 to 59.3. Among grains the average price of wheat was only slightly above that in September but prices of rye and flax were substantially higher. Prices of live stock were well above

## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.6 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.9 | 67.6 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1934 | | | | | | | | | |
| Jan. | 70.6 | 55.3 | 47.9 | 67.8 | 78.2 | 86.8 | 84.5 | 48.2 | 108.1 |
| Feb. | 72.1 | 58.0 | 49.3 | 72.5 | 78.7 | 86.4 | 84.0 | 67.1 | 98.6 |
| Mar. | 72.0 | 56.5 | 49.5 | 68.3 | 79.9 | 93.1 | 92.0 | 63.8 | 97.0 |
| Apr. | 71.1 | 55.4 | 48.7 | 66.6 | 79.4 | 92.6 | 91.4 | 56.9 | 94.5 |
| May | 71.1 | 56.9 | 51.1 | 66.5 | 78.5 | 99.6 | 99.4 | 130.6 | 102.6 |
| June | 72.1 | 59.3 | 55.5 | 65.6 | 78.2 | 95.8 | 95.2 | 97.2 | 126.1 |
| July | 72.0 | 60.0 | 57.8 | 63.7 | 78.4 | 95.7 | 95.6 | 148.8 | 116.3 |
| Aug. | 72.3 | 61.6 | 60.7 | 63.1 | 78.7 | 99.0 | 99.8 | 172.8 | 114.7 |
| Sept. | 72.0 | 61.3 | 58.9 | 65.3 | 79.0 | 97.1 | 97.5 | 127.7 | 117.7 |
| Oct. | 71.4 | 60.9 | 55.3 | 70.4 | 79.3 | 95.8 | 95.3 | 61.2 | 128.8 |
| Nov. | 71.2 | 61.2 | 55.7 | 70.4 | 79.4 | 96.5 | 97.0 | 51.2 | 130.4 |
| Dec. | 71.2 | 61.6 | 56.0 | 70.9 | 79.0 | 92.4 | 91.0 | 36.0 | 135.7 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1932, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1932, p. 32, and Monthly Mimeographs 1933 and 1934.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100. Prices and Price Indexes 1913-1931, p. 122, and Monthly Mimeographs, 1933-1934.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

those secured in September. This was particularly true of prices of calves and lambs. On account of heavy shipments average prices of cattle and hogs were slightly below the average for September. Prices of creamery butter showed a substantial gain and short supplies of eggs resulted in a sharp advance in prices.

*Production.*—The second crop estimate furnished by the Dominion Bureau of Statistics shows a reduction in the estimate of the wheat crop which is now placed at 273,971,000 bushels compared with 275,849,000 in 1934. Supplies of oats will be substantially above those of 1934 for this crop is estimated at 416,369,000 bushels against 321,120,000 bushels last year. Barley production is placed at 87,512,000 bushels in 1935, an increase of nearly 24 million bushels over the 1934 production. The output of mixed grains will be barely two million bushels higher than a year ago. The production of rye is nearly double that in 1934, being estimated at 10,610,000 bushels. With the exception of wheat and buckwheat yields per acre are higher than was the case last year. The potato crop will be smaller by 19 per cent, the yield this year being estimated at 38,786,000 hundredweight compared with the large crop of 48,095,000 hundredweight last year. Fodder crops have yielded better than in 1934.

Production of creamery butter in Canada during the first ten months of 1935 showed an increase of 1.7%, the largest percentage increases taking place in Quebec, Saskatchewan, Ontario, and Manitoba. Very substantial decreases have occurred in the Maritime Provinces and Alberta, whereas British Columbia shows a minor decline. The total output during this period was 215,449,205 pounds compared with 211,761,044 in the first ten months of 1934. Marketings of live stock reported by the Markets Intelligence Service of the Dominion Live Stock Branch show an increase in the number of cattle sold at public markets during the first 46 weeks of 1935 compared with the sales in the same period of 1934, the respective figures being 734,274 and 614,707. Sales of calves during a similar period were also somewhat higher in 1934. Sales of sheep were 388,697 in 1935 compared with 415,322 in 1934. The number of hogs graded this year was 2,527,161 while in 1934 the number was 2,567,304.

*The General Outlook.*—The movement of wheat overseas during the early months of the crop year has been comparatively low indicating fairly substantial supplies of European wheat. This is offset to a large extent through shipments to the United States and the fact that selling pressure from Southern Hemisphere countries has not been so marked. Trade restrictions play a large part in international trade and will still be a strong factor in 1936. The indications are that live stock prices will continue to be fairly satisfactory. The farmers' position, though still far from what might be desired has shown distinct improvement during 1935 and the indications are that further improvements may be expected in 1936. A great deal depends on developments in international affairs.

## NOTES

The Nova Scotia Royal Commission in its report dated October 24, 1934, strongly recommended that legislation be passed which would give greater opportunities for co-operative organization. In keeping with this recommendation "The Co-operative Associations Act" was passed the 11th day of May, 1935. Its terms apply to any co-operative association incorporated under the Nova Scotia Companies Act for the purpose of marketing or processing products of the farm, forest, and sea, and buying all supplies necessary in the production or marketing of such products. Five per cent of the net profits shall be set aside yearly to establish a Reserve Fund, that is to be kept liquid. At any meeting, each member shall have only one vote.

The Act provides for the appointment of an inspector of co-operative associations. The inspector is given power to examine any book or document and to demand any information he may require. His approval is necessary before the registration of any association and also before any withdrawal may be made from the Reserve Fund. Mr. R. J. MacSween of Antigonish has been appointed Inspector.

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The Economics Branch will shortly publish a new bulletin entitled "Farmers' Business Organizations in Canada, 1935," by A. E. Richards. This will be the second summary of Farmers' Business Organizations and their activities to be published by the Branch.

## COST OF PRODUCTION RECORDS AND THEIR USE IN AGRICULTURAL PRICE DETERMINATIONS[1]

J. F. BOOTH[2]

The widespread adoption of price-supporting measures of various types in recent years has increased the interest in, and use of cost of production data. Public and semi-public bodies entrusted with the task of deciding what constitutes a "fair" price have found information on costs valuable, if not essential. They are thus endeavouring to bring to their task the same basic information that the manufacturer uses in determining the price that he will ask for his product. They should, however, recognize that there are certain limitations as well as advantages in the use of such data and that neither manufacturer nor farmer can always sell his product at a price that will cover costs plus profit.

***Development of Farm Cost Analysis in United States.***—A record of the development of cost of production studies as applied to agriculture is interesting and, when analyzed, has a bearing on our discussion today. A review of agricultural history reveals some interesting observations on costs but the calculation of costs for groups of farms and their use in price determination is a matter of fairly recent origin. Bennett, in his book "Farm Cost Studies in the United States,"[3] gives us a record of the development in that country which, as far as early activities are concerned, was doubtless paralleled in Canada. In discussing the chronological development of both interest and technique he divides the period into two sections with the year 1902 marking the change. Prior to that time data on costs were derived from three sources, first the records kept by individual farmers and published frequently in the farm press of the day to indicate, usually, that a certain product could be grown with profit in a particular area. Some present will remember this era in Western Canada, which however, extended to a later date and was associated with the promotional settlement period of development in that region. The second is represented by the State Experiment Station activities. Of these the author states:—

"The major purpose of such experiments was to ascertain what rations and fertilizers were most satisfactory from a chemical standpoint, but cost data were frequently added in order to demonstrate the relative profitableness of different rations and fertilizers. Such cost statements were not uncommon even before the granting of federal aid to the agricultural experiment stations in 1888 and the subsequent expansion of agricultural research. Between 1888 and 1902 they increased greatly in number, and increasing emphasis was placed on the accuracy and completeness of the cost figures.

"These cost statements compiled by individual farmers or by investigators in the experiment stations were not, however, statistical in nature. Not only were costs given in incomplete form, but they referred either to single farms or to cultivation under experimental conditions. They serve to show that interest in costs of production existed before 1902, and that the interest was growing. They illustrate the prevalence of the fallacious ideas that costs do not vary greatly from farm to farm and from year to year, and that costs obtained from a single farm may be regarded as representative of costs incurred throughout a wide region. Otherwise these cost statements are of no significance."[4]

The third phase of development is represented by a statistical approach that might be termed the forerunner of modern methods. The statistician of the United States Department of Agriculture, as early as 1876, and several of the State Institutions a few years later, began obtaining costs from farmers by the questionnaire method and from correspondents in different countries. In 1897 two farm journals, "The American Agriculturist," and the "Orange Judd Farmer," investigated the cost of corn production by inducing "a large number" of farmers to keep day-to-day records on prepared blank forms.[5] The information obtained from these later studies was used to compare the relative profitableness of different farm practices, and during the years of low prices after 1890, to support demands of farmers for remedial measures.

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[1] A Summary of an Address to the Inter-provincial Conference of Milk Control Boards, Toronto, November 20, 1935.

[2] Commissioner, Agricultural Economics Branch, Department of Agriculture, Ottawa.

[3] Bennett, Merrill K. Farm Cost Studies in the United States. Food Research Institute, Stanford University, California, 1928.

[4] Ibid.

***Developments after 1902.***—In 1902 Professor Willet M. Hays of the Minnesota Experiment Station in co-operation with the statistician of the United States Department of Agriculture, began a systematic cost inquiry of the type later referred to as the route method.[6] In 1906 the office of Farm Management, United States Department of Agriculture, began cost studies.[7]

Somewhere about the turn of the century Professors L. H. Bailey and John Craig of Cornell University began a number of field studies of horticultural conditions in New York. In 1903 G. F. Warren was assigned to one of these and discovered "that other factors were more important than the soil." He changed the study from a soil survey to a statistical survey.[7] In 1907 labour income records were obtained in two townships of Tompkins county. In 1912 a study of the cost of producing milk was started in Delaware County and repeated in 1913. In the latter year a study of the cost of producing potatoes was made. In these studies a new approach to the analysis of farm problems was introduced, known as the survey method. Credit for the introduction and development of the survey method is generally assigned to Dr. Warren. A great many cost studies were completed throughout the United States during the years 1915-19 and the use of such data in war-time price-control efforts was popular.

Reference will again be made to the route and survey methods but it will suffice to say at this point that these have extended to other countries. In Canada with the introduction of Farm Economics at the Ontario Agricultural College in 1916, both methods were introduced. In England and throughout Europe, particularly in Denmark and Germany where interest in costs has for many years been of major concern, the survey and route methods were added to the "costings" technique.

***Cost Studies in Canada.***—In 1891 Dr. Wm. Saunders of the Dominion Experimental Farms contributed a bulletin on "Indian Corn or Maize," in one section of which he gave a summary of the cost of producing one acre of ensilage. Other cost data were presented in succeeding years and after 1900 under the leadership of Dr. J. H. Grisdale this field of activity was considerably enlarged.[9] In 1919 the survey method was adopted in a study of farming in Quebec tributary to six illustration stations. The questionnaire method has also been used by the Experimental Farms as a means of obtaining cost data from privately operated farms. Two comprehensive reports on costs of producing farm crops in Eastern and Western Canada have recently been contributed by Dr. E. S. Hopkins and his associates.

The Department of Farm Economics, Ontario Agricultural College, Guelph, used the survey method in determining the cost of producing milk in Oxford County in 1917. The Book method was introduced in Ontario in 1920. In British Columbia Professor H. R. Hare used the Survey method to determine the costs of producing milk over a ten-year period. Dr. E. Misner employed similar methods in his study of dairy production costs in Saskatchewan in 1928. In Quebec the Rural Economics Service and the Department of Farm Economics, Macdonald College obtained costs on dairy farms during the period 1929 to 1934. Dr. Wm. Allen of the University of Saskatchewan has also conducted cost accounting studies by the survey method in areas in which wheat-growing is the predominant type of farming. Generally speaking, however, relatively little has been done in Canada in cost analysis as far as agriculture is concerned.

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[5] Ibid. As reported in "The Book of Corn" by Myrick and others, in Chapter XV; "Cost of Corn Production," by B. W. Snow.

[6] Ibid.

[7] Peck, F. W. Methods of Conducting Cost of Production and Farm Organization Studies. U.S. Dept. of Agriculture, Bulletin 994. 1921.[9]

[8] Warren, G. F. Agricultural Surveys, Cornell Agricultural Experiment Station, Bulletin 344, 1914.

[9] Unpublished data and correspondence E. S. Hopkins, Central Experimental Farm, Ottawa.

***Factors Responsible for Interest.***—One of the purposes in thus reviewing the development of cost analysis is to indicate the factors responsible for the interest in this matter. Briefly it may be said that the early cost records were of the type associated with the development of a new area and the introduction of new crops where individuals kept accounts to compare with costs in areas from which they or the product tested originated. During the depression of the period 1890–97 with very low prices prevailing costs were obtained and published to indicate the unfavourable position of farming. After 1900 the collection of costs became associated with farm accounting and the development of the survey method of studying the farm business. Under this stimulus a great development occurred and has been continued. Out of this has grown the science of farm management.

The interest in price-fixing measures during the world war period of rising prices encouraged the use of cost of production records and this interest has again been aroused during recent years of declining prices. If legislative price-fixing remains with us, the interest in cost records will probably continue. Summarizing this development it is apparent that serious price maladjustments have greatly stimulated the interest in costs but the thing that has contributed most toward the permanent support of such work is the use of the results in studying the farm as a business enterprise.

***Consideration of Methods.***—From a consideration of the development of cost analysis we turn next to a description of the methods referred to. These will be referred to as (1) the accounting method, which includes the route plan already mentioned; (2) the survey method; and (3) the experimental farms method.

Where detailed records are desired and where the farmer has the necessary time and patience to devote to the task a complete cost accounting system may be established. This involves a double entry system with journal and ledger and requires not only the accurate recording of all receipts and expenditures by particular crop and live stock enterprises but also labour records for men and for horses or tractor. It means that the time taken for each field operation and for each activity associated with the handling of live stock must be recorded. It means the allocation of overhead costs—of charges for the use of land, buildings, and equipment, and interest to each enterprise. It means the determination of the cost of feed that is fed to live stock. In other words it is a complete record of the operations of the farm and of every single enterprise.

Records so kept are, of course, the most satisfactory but they are so detailed and involved that relatively few farmers will undertake to keep them—and keep their undertaking—for long. The recording of costs is not the only purpose of such an accounting system, or perhaps one should say, that the determination of costs is usually considered incidental to the analysis of farming operations. Notwithstanding the fact that such records contain many estimates the results offer a splendid opportunity for the study of the relative advantages of different enterprises and the most successful combination of enterprises in a farm business. For this reason many colleges of agriculture encourage and even assist farmers to keep such records. In the United States, in Great Britain and, in a small way in Canada, agricultural officials at state institutions assist farmers in establishing farm accounting systems and in "closing" the books annually. In some instances, as already indicated, routes are established with an accountant in charge of a considerable number of accounts. In other cases books are opened and an occasional visit duirng the year is made by the representative of the college to check results.

Recognizing the value of such accounts and of the advice given by an independent authority on farm management (the accountant usually being an agricultural economist or a specialist in farm management) farmers in some instances contribute to the cost of the service. The Agricultural Economics Departments of our Agricultural Colleges always encourage cost accounting, for in addition to its value to the individuals whose operations are analysed, such records provide valuable information for teaching and extension work.

Accounts kept on such a basis are perhaps the most satisfactory source of cost data but until we have more trained agricultural accountants at our colleges of Agriculture in Canada to assist farmers with this method, the number of accounts available for analysis is likely to be very limited.

A second method involving the keeping of more or less regular accounts, but nothing like as involved as that just described, consists of the keeping of a simple record of expenditures and receipts and a detailed cost account record for the principle enterprise. A third modification and one that might be considered by milk boards or co-operative agencies desirous of ascertaining production costs in their areas, consists of a simple enterprise account. This consists of a beginning and ending inventory, a financial record of charges against cows, a record of credits, and a work record for man labour, horses, trucks, etc.

*The Survey Method.*—Because of the detail involved in the keeping of farm accounts and for that reason the difficulty of getting farmers to keep such accounts, another method has been devised and is widely used by agricultural economists and others desirous of studying the farm business or of obtaining farm costs. Again, as in the keeping of cost accounts, the primary purpose of this method is to enable the farmer to analyse his own business and, since a survey usually includes a considerable number of farms, to enable comparisons to be made with other farms in the same area. Frequently such surveys are designed to obtain the farmers "labour income" which by some economists is considered the best single measure of farm efficiency. Additional data may be obtained in order to enable the calculation of costs of production of the major product, milk or wheat for instance, is determined by the simple process of considering that side-line or minor enterprises cost approximately what they return and the balance of the expense is chargeable to the major enterprise. This method, although frequently used because of its simplicity, is only practicable where the major enterprise is predominantly the object of expenditure and source of expenditure and source of income.

The survey method may also be used to determine the cost of a single enterprise. In such cases a much less detailed survey form is used—other phases of the farm business being omitted.

The procedure involved in the survey method is relatively simple and results can be obtained with reasonable dispatch and accuracy. A questionnaire of more or less standard form is used. The enumerator visits the farmer and obtains from him a record of his farm operations for the past year including receipts and expenditures. Records where available are used, otherwise the farmer's memory and his ability to estimate accurately are made use of. Fortunately on most farms the number of financial transactions is limited and of such proportions and importance that farmers can easily remember them. Questioned systemmatically, one operation at a time, by an enumerator who understands farming, most farmers can give a surprisingly good record of financial transactions. Averages from a number of such records check surprisingly well with recorded facts. The taking of such a record may require anywhere from an hour to three or four hours but it will at once be appreciated that in the course of several weeks two or three men can obtain information from a hundred or more farms. Although the analysis of the data thus obtained may require several weeks or several months, depending upon how much detail is involved, the whole operation can be completed in a much shorter time than is required where the cost account method is followed.

*Experimental Farm Cost Studies.*—Reference has already been made to the methods adopted by the Dominion Experimental Farms in obtaining cost records. Limited use has been made of the survey and questionnaire methods but most results have been obtained from cost computations of data obtained in experimental work. Most of these studies have been conducted on the Central Farm at Ottawa and at branch farms and stations throughout Canada. In a number of instances data have also been obtained on illustration farms which are operated by individual farms under supervision.

*Other Methods.*—The mail questionnaire has been used in obtaining costs on quite an extensive scale but it is limited to rather simple studies or instances where supplementary data are required. In a number of cases correspondents have sent in returns regularly. The United States Department of Agriculture pursued this course for some years but eventually abandoned the policy. Here, too, there is a definite limit to the information which can be secured and generally speaking, this plan must be used in association with one of the other systems to obtain supplementary current data.

*Costs in Succeeding Years.*—Having obtained a record of the cost of producing a product for a given year, either by the accounting or survey method, the cost for several additional years may be calculated. This, of course, requires a careful recording of the "input" factors, i.e., the number of hours of man labour and horse labour, the number of pounds, bushels, or tons of various feeds consumed, the proportion of the valuation of land, buildings, and equipment used. With the quantitative factors known, the valuations and prices of succeeding years can be applied. Obviously, however, there is a limit to the number of years that costs can be constructed on a single year's basic data for in time the quantitative factors themselves change. In other words farming methods change and the quantity of land, labour and capital consumed in a single productive operation changes.

*Use of Cost Data.*—Having considered some of the methods of obtaining cost of production data, let us now turn to the use of such information. In this connection it might be well to consider the limitations involved. These may be divided roughly into two classes, first those concerning the data themselves and second, the application of the data to the problem. Concerning the first it may be said that there are differences of opinion among accountants and economists as to the reliability of cost data. The fact that estimates must be used, that costs must be divided between enterprises disturbs some people. The question of whether to use a simple average, a weighted average, a bulk-line cost or a device such as the median or the modal cost, is always the occasion for discussion. What to include among costs is always a subject of debate. Authorities disagree on whether interest and rent should be charged and if so, on what basis. Critics who would not think of questioning the accounts of any other business that included charges for depreciation, interest, rent, family, and operator's or manager's labour, object to the inclusion of these items in farm accounts. When labour income records are low, or when costs are higher than prices they point to the fact that farmers continue to operate their farms and therefore something must be wrong with the records. They fail, of course, to differentiate between short and long time costs—fail to realize that a farmer may continue for some years without covering all costs, that he can wear out his buildings and equipment, forego interest on his investment or receive no return for his labour, but that over a long period of years these costs must be met. To satisfy those who do not think farmers should charge all costs, the Economics Branch and some other agencies calculate results on several bases.

*Application to Price Determination.*—With regard to the application of cost data to price determination a number of factors should be considered. Generally speaking, price fixing must be considered in terms of future costs. Once a product has been produced it must be sold for what it will bring in competition with other products. Not even price-determining bodies with legislative authority can alter this fundamental concept except perhaps for short periods or under unusual circumstances. Cost data may, however, be useful to such bodies in deciding upon a price that will insure the maximum degree of stability in volume of output and quantity of production.

Reference has already been made to the difficulty of deciding what cost figure to use in price-determination. Perhaps it may be of interest to enlarge upon this. What figure will insure production of the quantity desired? How can over-production be avoided? Can a milk board or price committee dependent upon the support of producers to keep them in office, agree upon a price that will not lead to over-production? A price based on average costs will be less than the costs of from 25 to 35 per cent of the producers. Will there not be an irresistible tendency for this reason to decide upon a price that is too high and which will increase the surplus problem? A careful consideration of these possibilities suggests that, in the interests of both producer and consumer, bodies endowed with price-fixing powers should represent all interests and should be appointed on such a basis and for such a period as to insure continuity and independence of action.

***Conclusions.***—In a brief review of this nature it is, of course, impossible to deal adequately with the subject under discussion. Nothing more than a sketchy analysis can be attempted and doubtless many factors of interest have been omitted. In examining the literature on farm cost accounting and of efforts to use cost of production information as a basis for fixing prices, one observes evidence of a changing viewpoint. Early efforts to use such material were based upon the belief that prices could be determined and adjusted on some formulae basis—that having determined the cost of production the price could be set at that definite figure. Subsequent developments frequently indicated the fallacy of such a policy. In more recent years particularly, with the development and interest in "administrative" prices and the search for some basis for determining such prices, the use of cost data as an *aid* in this connection has received consideration. It is in this sense that cost data should prove of real value. Taken in conjunction with available information on unemployment conditions, factory payrolls, car loadings, bank clearings, indexes of business activity, price trends, and other evidences of economic conditions, data on cost of production can be used to advantage.

Representatives of producers acting as members of boards or committees, or appearing before such bodies in connection with price agreements, should find their case more easily presented and their requests more favourably considered, if their representations are accompanied by reliable data on costs of production.

## ECONOMIC LITERATURE

**WAITE, C. WARREN, and COX, REX W. A study of the Consumption of Dairy Products in Minneapolis, 1934, Bulletin 311, University of Minnesota, Agricultural Experimental Stations.**

This study was undertaken with the purpose of determining the variations in the rates of consumption of the different dairy products by families in Minneapolis and to account for the differences in these rates. Information was obtained from 2,187 families, which included 8,783 persons. Per capita consumption of dairy products was as follows:—milk 0.85 pint per day, light cream equivalent 0.72 one-half pint per week, butter 0.65 pound per week, cheese 0.49 pound per month, evaporated and condensed milk 0.71 pound per month and ice cream 0.29 quart per month.

The writers state in conclusion that consumption of dairy products in Minneapolis is high in relation to consumption in eastern cities and say this is probably so because of its location in the heart of an important dairy region where the importance of dairy products as an item of food is generally recognized and their retail prices are relatively low. The people are principally of Scandinavian origin and such people usually consume a large quantity of dairy products. In general, the lower-income groups spend a larger portion of their total food expenditures on dairy products, although the per capita expenditure is less than the high-income groups. Increases in income may be expected to increase materially the fluid milk and butter consumption on the low-income group; increase butter consumption slightly, cream consumption a great deal, and fluid milk slightly in the medium-income group, and change consumption hardly at all in the higher-income group. The relationships found between income and the rate of consumption of various dairy products indicate the dependence of the prosperity of the dairy industry upon an increase in the incomes of the low and middle class groups in the cities.

## FINANCIAL STATEMENTS

W. F. CHOWN[1]

The profit or loss resulting from the operation of a business can be determined by comparing the Net Worth shown in Statements of Assets and Liabilities prepared at the beginning and end of the financial period, subject to adjustment for additions or withdrawals of capital. To explain how the profit was earned or loss sustained another form of statement should be prepared which is called variously Income and Expense, Revenue and Expenditure, Operating, Profit and Loss. This statement can be constructed in several sections and in a variety of forms to meet different requirements.

The preparation of this statement necessitates a complete set of double-entry accounts or the completion of single entry records at the end of the financial period. It is impossible to cover the subject fully in this article but some discussion of the principles involved with an illustration of a simple case may be of value.

Double entry theory recognizes the two-sidedness of every business transaction, value received and value given. When a farmer sells a cow for $80 cash, he receives value, $80, and gives value, a cow. An account is a page in the ledger on which are assembled values of a similar kind arising from like transactions. In recording the above transaction Cash Account is debited and Livestock Sales Account credited. For every debit there must be a corresponding credit. An implement dealer may have rows of bins in his stock room with repairs of a like kind in each and the kind denoted by a number marked on the bin. So in the ledger values of the same kind can be sorted into the different accounts each of which is given an appropriate title. The values are moved in and out by means of debit and credit entries.

*Trial Balance.*—Because there must be a credit entry for every debit, and vice versa, the accounts can be proved arithmetically. To do this, the accounts are listed and the balances shown in two columns, debit and credit. The totals of these columns agree if the accounts have been correctly kept. This summary of ledger balances is called a Trial Balance.

THOMAS BROWN
TRIAL BALANCE
April 1, 1934

| | Dr. | Cr. |
|---|---|---|
| Cash | $ 625.00 | |
| Accounts Receivable | 83.00 | |
| Land | 6,000.00 | |
| Buildings | 6,000.00 | |
| Reserve for Depreciation of Buildings | | $ 2,160.00 |
| Machinery and Equipment | 1,630.00 | |
| Reserve for Depreciation Machinery and Equipment | | 720.00 |
| Cattle | 900.00 | |
| Horses | 450.00 | |
| Hogs | 25.00 | |
| Feed and Seed | 150.00 | |
| Prepaid Insurance | 80.00 | |
| Accounts Payable | | 210.00 |
| Interest Payable | | 240.00 |
| Mortgage Payable. | | 4,000.00 |
| Surplus | | 8,613.00 |
| | $15,943.00 | $15,943.00 |

To assist in the sorting, entries are first made in a book of Original Entry, e.g., General Journal, Cash Book, etc. The Columnar Cash Book described in the September issue of the *Economic Annalist* illustrates how this may be done. After the totals of the special columns and the individual items in the sundry column have been posted to Thomas Brown's General Ledger, the trial balance would show as in Columns 1 and 2 in the accompanying working sheet.

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[1] Account Examiner, Economics Branch, Department of Agriculture, Ottawa.

*General Journal.*—At the end of a financial period adjustments must be made in the accounts for changes other than cash. Inventories must be taken. The portion of each type of value (assets) carried on the books that has been consumed and that remains must be determined. Accounts Receivable must be debited for amounts due to Brown, and Sales credited. The liability for Accounts Payable must be set up and the proper account charged or debited. In this case where only cash entries have been made during the year, Accounts Receivable and Payable will have to be adjusted for the beginning of the year. It will also be necessary to debit a Depreciation expense account and credit Reserve for Depreciation for the value of plant consumed during the years operations. These adjusting entries are made in the General Journal which is ruled with two columns to the right of the page, the left hand column is debit, the right hand column credit.

Journal entries illustrating these adjustments follow and are also shown in columns 3 and 4 in the working sheet.

GENERAL JOURNAL

| | | Dr. | Cr. |
|---|---|---|---|
| 1935 | | $ | $ |
| March 31 | Milk Sales | 80.00 | |
| | Cream Sales | 3.00 | |
| | Accounts Receivable | | 83.00 |
| | To adjust Accounts Receivable April 1, 1934 | | |
| | Accounts Payable | 210.00 | |
| | Machinery Note Payable | | 80.00 |
| | Wages | | 120.00 |
| | Milk Cartage | | 10.00 |
| | To adjust Accounts Payable April 1, 1934 | | |
| | Accounts Receivable | 182.00 | |
| | Milk Sales | | 182.00 |
| | To set up Milk Cheque Receivable March 31, 1935 | | |
| | Milk Cartage | 12.00 | |
| | Wages | 60.00 | |
| | Feed and Seed | 28.00 | |
| | Accounts Payable | | 100.00 |
| | To charge expenses incurred but unpaid March 31, 1935 | | |
| | Depreciation | 420.00 | |
| | Reserve for Depreciation Buildings | | 240.00 |
| | Reserve for Depreciation Machinery and Equipment | | 180.00 |
| | To charge Depreciation on Buildings at 4% | | |
| | To charge Depreciation on Machinery and Equipment at 10% | | |
| | Insurance | 15.00 | |
| | Prepaid Insurance | | 15.00 |
| | To adjust value of insurance consumed | | |

*Closing the Books.*—It now remains (1) to charge Profit and Loss with the value of the opening inventories, (2) to bring into account the new inventories and credit Profit and Loss with them, and (3) to transfer values in income and expense accounts—nominal accounts—to Profit and Loss. This is done by the Journal Entries shown in Columns 7 and 8 on the working sheet. Finally the Profit for the year is carried to Surplus Account. It is now possible to prepare the Balance Sheet shown in the June issue of the ***Economic Annalist.*** The Profit and Loss Account, about as it would appear in the Ledger, follows.

### THOMAS BROWN
### PROFIT AND LOSS ACCOUNT
### FOR THE YEAR ENDING MARCH 31, 1934

| Dr. | | | Cr. |
|---|---|---|---|
| Inventories April 1, 1935— | $ | Sales— | $ |
| Livestock | 1,375.00 | Milk | 1,202.00 |
| Feed and Seed | 150.00 | Cream | 52.00 |
| Purchases— | | Eggs | 65.00 |
| Horses | 150.00 | Livestock | 250.00 |
| Feed and Seed | 248.00 | Crops | 180.00 |
| Fertilizer | 40.00 | Sundry Income | 75.00 |
| Expenses— | | Inventories March 31, 1935 | |
| Wages | 746.00 | Livestock | 1,785.00 |
| Repairs | 43.00 | Feed and Seed | 410.00 |
| Milk Cartage | 196.10 | | |
| Harvest Expense | 65.00 | | |
| Insurance | 45.00 | | |
| Taxes | 150.00 | | |
| Interest | 240.00 | | |
| Phone | 20.00 | | |
| Depreciation | 420.00 | | |
| Sundry | 107.40 | | |
| Profit for the year | 23.50 | | |
| | $4,019.00 | | $4,019.00 |

### SURPLUS ACCOUNT

| | | | |
|---|---|---|---|
| Balance, March 31, 1935 | | Balance, April 1, 1934 | 8,613.00 |
| Carried to Balance Sheet | 8,636.50 | Profit for year | 23.50 |
| | $8,636.50 | | $8,636.50 |

(*Continued on Page 61*)

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The services which the wholesalers and jobbers render in the field of marketing are regarded as essential. If these established agencies do not perform the distributing service, then the farmer or co-operative must. Such services include assembling, usually from distant points, large quantities of a wide variety of goods from a fluctuating and seasonal supply. The products must then be stored, sorted as to grade and spread out among consumers according to demand. Business relationships must be established and held with retailers. Personal contact is necessary in order to settle misunderstandings, complaints and claims. Whoever is carrying out the jobbing service must be prepared to extend a long line of credit to retailers who are usually slow to pay. As farmers want cash the credit difficulty is a problem which must be faced. The economical method of shipping from country points is in car lots. Most retailers cannot handle goods in such quantity. Their aim is a rapid turnover with the least amount of stock on hand.

Farmers' co-operatives can and do perform certain of the middleman's services and the extent to which they engage in such activity varies with different commodities. Frequently, however, there is a disposition to underestimate the extent and cost of the services performed in distributing farm produce. Before entering this field, an association is well advised to analyse the situation very carefully in order to be certain that existing agencies are not performing efficiently.

(*Continued from page 60*)

## THOMAS BROWN—WORKING SHEET—MARCH 31, 1935

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
|  | Trial Balance March 31, 1935 |  | Adjusting Journal Entries |  | Adjusted Trial Balance |  | Closing Journal Entries |  | Final Trial Balance |  |
|  | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. | Dr. | Cr. |
|  | $ | $ | $ | $ | $ | $ | $ | $ | $ | $ |
| Cash | 114.50 |  |  |  | 114.50 |  |  |  | 114.50 |  |
| Accounts Receivable | 83.00 |  | 182.00 | 83.00 | 182.00 |  |  |  | 182.00 |  |
| Land | 6,000.00 |  |  |  | 6,000.00 |  |  |  | 6,000.00 |  |
| Buildings | 6,000.00 |  |  |  | 6,000.00 |  |  |  | 6,000.00 |  |
| Reserve for Depreciation—Buildings |  | 2,160.00 |  | 240.00 |  | 2,400.00 |  |  |  | 2,400.00 |
| Machinery and Equipment | 1,800.00 |  |  |  | 1,800.00 |  |  |  | 1,800.00 |  |
| Reserve for Depreciation—Machinery |  | 720.00 |  | 180.00 |  | 900.00 |  |  |  | 900.00 |
| Cattle | 900.00 |  |  |  | 900.00 |  | 1,000.00 | 900.00 | 1,000.00 |  |
| Horses | 450.00 |  |  |  | 450.00 |  | 600.00 | 450.00 | 600.00 |  |
| Hogs | 25.00 |  |  |  | 25.00 |  | 185.00 | 25.00 | 185.00 |  |
| Feed and Seed | 150.00 |  |  |  | 150.00 |  | 410.00 | 150.00 | 410.00 |  |
| Prepaid Insurance | 80.00 |  |  | 15.00 | 65.00 |  |  |  | 65.00 |  |
| Accounts Payable |  | 210.00 | 210.00 | 100.00 |  | 100.00 |  |  |  | 100.00 |
| Machinery Note Payable |  |  |  | 80.00 |  | 80.00 |  |  |  | 80.00 |
| Interest Payable |  | 240.00 |  |  |  | 240.00 |  |  |  | 240.00 |
| Mortgage Payable |  | 4,000.00 |  |  |  | 4,000.00 |  |  |  | 4,000.00 |
| Surplus |  | 8,613.00 |  |  |  | 8,613.00 |  |  |  | 8,613.00 |
| Profit and Loss |  |  |  |  |  |  | 3,995.50 | 4,019.00 |  | 23.50 |
| Sales Milk |  | 1,100.00 | 80.00 | 182.00 |  | 1,202.00 | 1,202.00 |  |  |  |
| Sales Cream |  | 55.00 | 3.00 |  |  | 52.00 | 52.00 |  |  |  |
| Sales Eggs |  | 65.00 |  |  |  | 65.00 | 65.00 |  |  |  |
| Sales Livestock |  | 250.00 |  |  |  | 250.00 | 250.00 |  |  |  |
| Sales Crops |  | 180.00 |  |  |  | 180.00 | 180.00 |  |  |  |
| Sundry Income |  | 75.00 |  |  |  | 75.00 | 75.00 |  |  |  |
| Purchases Livestock | 150.00 |  |  |  | 150.00 |  |  | 150.00 |  |  |
| Purchases Feed and Seed | 220.00 |  | 28.00 |  | 248.00 |  |  | 248.00 |  |  |
| Purchases Fertilizer | 40.00 |  |  |  | 40.00 |  |  | 40.00 |  |  |
| Wages | 806.00 |  | 60.00 | 120.00 | 746.00 |  |  | 746.00 |  |  |
| Repairs | 43.00 |  |  |  | 43.00 |  |  | 43.00 |  |  |
| Milk Cartage | 194.10 |  | 12.00 | 10.00 | 196.10 |  |  | 196.10 |  |  |
| Harvest Expense | 65.00 |  |  |  | 65.00 |  |  | 65.00 |  |  |
| Insurance | 30.00 |  | 15.00 |  | 45.00 |  |  | 45.00 |  |  |
| Taxes | 150.00 |  |  |  | 150.00 |  |  | 150.00 |  |  |
| Interest | 240.00 |  |  |  | 240.00 |  |  | 240.00 |  |  |
| Phone | 20.00 |  |  |  | 20.00 |  |  | 20.00 |  |  |
| Depreciation |  |  | 420.00 |  | 420.00 |  |  | 420.00 |  |  |
| Sundry Expense | 107.40 |  |  |  | 107.40 |  |  | 107.40 |  |  |
|  | 17,668.00 | 17,668.00 | 1,010.00 | 1,010.00 | 18,157.00 | 18,157.00 | 8,014.50 | 8,014.50 | 16,356.50 | 16,356.50 |

## A COMPARISON IN FARM EFFICIENCY[1]

S. C. Hudson[2]

The importance of the various factors which are associated with greater returns from farming can be demonstrated effectively by a comparison of the organization and returns of the most profitable and the least profitable farms (Table 1). In each area studied, ten farms having the highest average labour income for the three years 1929–1931 were selected as being the most profitable group and ten farms having the lowest average labour income for the same period as the least profitable group.

In comparing the two groups of farms for each of the three areas, little difference in general organization is discernible. In Nova Scotia and Ontario, the proportion of the gross receipts which apples accounted for was almost the same for the two groups.

Table 1.—A comparison of the ten most profitable and the ten least profitable apple farms in Nova Scotia, Quebec and Ontario for the three year period 1929–1931

| | Nova Scotia | | Quebec | | Ontario | |
|---|---|---|---|---|---|---|
| | 10 most profitable farms | 10 least profitable farms | 10 most profitable farms | 10 least profitable farms | 10 most profitable farms | 10 least profitable farms |
| | $ | $ | $ | $ | $ | $ |
| Farm Investment | | | | | | |
| Real estate | 14,780 | 24,629 | 18,685 | 21,154 | 19,177 | 19,682 |
| Machinery and equipment | 1,794 | 2,581 | 1,384 | 1,945 | 2,045 | 1,624 |
| Live stock | 1,491 | 1,622 | 666 | 1,236 | 638 | 1,148 |
| Feed and supplies | 123 | 132 | 148 | 107 | 170 | 127 |
| Total | 18,188 | 28,964 | 20,883 | 24,442 | 22,030 | 22,581 |
| Farm Receipts | | | | | | |
| Apples | 5,417 | 4,175 | 4,622 | 1,947 | 5,508 | 2,082 |
| Other crops | 476 | 437 | 194 | 461 | 2,082 | 412 |
| Live stock | 1,443 | 1,023 | 237 | 766 | 341 | 387 |
| Miscellaneous | 189 | 225 | 115 | 147 | 44 | 22 |
| Inventory increase | 236 | 397 | 123 | 131 | 226 | 122 |
| Total | 7,761 | 6,257 | 5,291 | 3,452 | 8,201 | 3,025 |
| Farm Expenses | | | | | | |
| Current expenditures | 4,885 | 5,585 | 2,189 | 2,481 | 4,488 | 2,732 |
| Capital expenditures | 261 | 405 | 126 | 182 | 319 | 111 |
| Inventory decrease | 514 | 605 | 363 | 522 | 388 | 503 |
| Total | 5,660 | 6,595 | 2,678 | 3,185 | 5,195 | 3,346 |
| Farm income | 2,101 | −338 | 2,613 | 267 | 3,006 | −321 |
| Interest on investment | 910 | 1,448 | 1,044 | 1,222 | 1,102 | 1,129 |
| Labour income | 1,191 | −1,786 | 1,569 | −955 | 1,904 | −1,450 |
| Per cent of receipts from apples | 69.8 | 66.7 | 87.4 | 56.4 | 67.2 | 68.8 |
| Size of orchard (ac. bear.) | 27.4 | 38.8 | 23.4 | 15.7 | 30.2 | 25.8 |
| Apple receipts per acre | 197.72 | 107.60 | 197.39 | 123.75 | 182.38 | 80.82 |
| Apple yield per acre | 100.5 | 61.3 | 64.4 | 45.5 | 64.8 | 33.8 |
| Fertilizer per acre bear. orchard | 10.89 | 9.92 | 9.70 | 7.37 | 4.82 | 3.05 |
| Average price per bbl. apples sold | 1.97 | 1.75 | 3.06 | 2.72 | 2.81 | 2.39 |
| Spray material per acre bear. orch. | 12.20 | 8.59 | 4.58 | 4.58 | 7.58 | 4.80 |
| No. years for receipts to equal capital | 2.3 | 4.6 | 3.9 | 7.1 | 2.7 | 7.5 |
| Gross receipts per dollar of current expense | 1.44 | 1.01 | 2.07 | 1.15 | 1.68 | 0.94 |

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[1] The data on which Table 1 is based were secured in a study of apple production in Nova Scotia, Quebec and Ontario, 1929–31. This study was conducted by the Economics Branch in co-operation with the Economics Divisions in the provincial Departments of Agriculture or Colleges of Agriculture.

[2] Assistant Agricultural Economist, Economics Branch, Department of Agriculture, Ottawa.

In Quebec, however, the more profitable group of farms obtained 87 per cent of their gross receipts from apples while the less fortunate group derived only 56 per cent of their income from this source. It will be noticed that the average price received per barrel in Quebec was much higher than in the other provinces. This probably affected the degree of profitable specialization in apple production. The size of business as measured by the farm investment was found to be greatest for the least profitable groups. Interest constituted a larger charge against these farms. The acreage in bearing orchard, however, was greatest for the most profitable group in the case of Quebec and Ontario while in Nova Scotia the acreage in bearing orchard in the less successful group was greater.

One of the most striking differences between the most profitable and the least profitable groups is in apple receipts per acre of bearing orchard. This item was $90 higher for the former group in Nova Scotia, $74 in Quebec and $100 in Ontario. This difference is due to two factors—yield per acre and price per barrel of apples sold.

The average per acre yield of apples obtained on the more profitable farms was consistently higher than that for the less profitable groups. The group average yield was respectively 100.5 and 61.3 barrels per acre of bearing orchard for Nova Scotia, 64.4 and 45.5 barrels per acre for Quebec and 64.8 and 33.8 barrels per acre for Ontario. Associated with the higher yield in the more successful groups was a higher expenditure for fertilizer per acre of bearing orchard.

The average price per barrel of apples sold was likewise consistently higher for the more profitable groups. The apples produced on the more successful farms, therefore, must be of a higher quality and more effectively marketed. One of the principal factors making for a high degree of quality is thoroughness of spraying. In Nova Scotia and Ontario, the expenditure for spray and dust material per acre of bearing orchard was materially higher for the more profitable groups of farms. In Quebec, the amount spent for spray and dust material per acre of bearing orchard was the same for both groups.

Examining the rate of capital turnover or the number of years required for the farm receipts to equal the farm capital which is the most dependable measure of efficiency in the use of capital one finds that the rate of turnover is much more rapid for the more successful group.

## ECONOMIC LITERATURE

**POND, G. A., RANNEY, W. P., CRICKMAN, C. W. Factors Causing Variations in Earnings Among Dairy Farmers in Southeastern Minnesota, Bulletin 314, University of Minnesota, University Farm, St. Paul, United States Bureau of Agricultural Economics co-operating.**

The purpose of this study, as indicated by the title, is to analyse some of the major factors causing variations in incomes among dairy farmers in Southeastern Minnestota and to point out the extent to which they are the result of differences in practices or methods of management within the control of the individual farm operator. Later studies will deal with crop and live stock practices, the efficiency of labour and machinery and the control of expense.

The results in this bulletin are based on details from 766 yearly farm records, 124 to 180 dairy farm businesses being studied for each year from 1928 to 1932.

The average operator's labour earnings were as follows:—1928, $1,260; 1929, $1,833; 1930, $211; 1931, $650; and 1932, $797. Some farmers had consistently high or consistently low earnings, whereas others varied widely in their relative rankings from year to year. The following eight organization and management factors were found to be associated with earnings:—1. Size of business, 2. Choice of crops; 3. Amount of live stock per 100 acres; 4. Crop yields; 5. Butterfat production per cow; 6. Returns over feed from live stock other than cows; 7. Labour efficiency; and 8. Power, machinery and improvement expense per productive man work unit.

Productive man work units were selected as the most satisfactory measure of size. Crop yields and labour efficiency were higher in the large business units, but butterfat production per cow was lower. Power and machinery costs per unit of work were lower on the larger farms. In 1928 and 1929, when prices were relatively favourable earnings increased with increases in the size of business unit, but in 1931 and 1932, the opposite trend was observed.

Earnings increased with increases in the index of crop selection, but these increases were somewhat irregular during 1930 to 1932. Intensive live stock production was associated with high crop yields and a high index of crop selection. Many other important relationships between earnings and management factors are described in this bulletin. As well as showing the individual effect of each factor on earnings, the cumulative effect is also brought out. For each additional factor in which a farmer attained better than average accomplishment, there was an increase in earnings of nearly $300.

## NOTES

The Agricultural Situation and Outlook for 1936 will be published jointly by the Department of Agriculture and the Department of Trade and Commerce. As in the previous two years, this report will summarize the conditions of supply of, demand for, and competition in, agricultural products, and thus provide a basis for production and marketing policies during the ensuing year. Copies of this publication will be available after the first week of January from the Publicity and Extension Branch, Department of Agriculture, Ottawa.

Mr. F. W. Chown, Economics Branch, Department of Agriculture, Ottawa, has gone to Nova Scotia to assist in completing a study of agricultural conditions in Antigonish County. While in Nova Scotia, Mr. Chown will also visit a number of apple warehouses in the Annapolis Valley to obtain information respecting prices secured for various grades and varieties of apples shipped overseas. The latter project is one in which factors affecting prices of apples are being studied.

The Economics Branch of the Dominion Department of Agriculture in cooperation with the Dairy Branch has completed the field work for a study of consumer demand for milk and cheese in Quebec City, Oshawa, Ontario, and Calgary, Alberta. Approximately three thousand records have been obtained. In Quebec City, the Rural Economics Service assisted in securing the information from consumers.

In the legislation arising from the Price Spreads Investigation a section was added to the Criminal Code whereby it was made an offence for any person engaged in commerce or industry to discriminate in any sale against competitors of the purchaser by granting rebates or discounts not available to such competitors. However, it was stipulated that the provision should not prevent a co-operative society of producers or consumers, or a co-operative wholesale society, returning to its members dividends on their purchases from the society or on their sales to it.

The British Columbia Tree Fruit Marketing Board has announced that Cockfield, Brown and Co., a Canadian advertising organization has been employed to make a study of marketing tree fruits. The present survey will include only the domestic markets—"We are really laying the foundation for the merchandising of our 1936 crop," said G. A. Barrat of the Tree Fruit Board in announcing the plan.

The American Farm Economics Association will hold its twenty-sixth annual meeting in New York from December 27th to 30th. During the sessions, the headquarters of the Association will be at the Hotel Commodore.

# *The* ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Published by Authority of the Hon. James G. Gardiner
Minister of Agriculture

## INDEX VOLUME VI, 1936

**A**bandoned Farms, A Study of 126 in the Lomond Area of Southern Alberta. 38
Act, Australia's Dried Fruit, Privy Council Finds Unconstitutional...... 67
Agricultural Outlook for 1937.............................. 92
Agricultural Outlook Service................................ 30
American Farm Program, The Current.......................... 93
Apple Production in Rouville County, Quebec, Economic Aspects of...... 44
Apple Production in Rouville County, Quebec, Economic Aspects of...... 60
Appraisal, Rural, Some Problems in.......................... 53

**B**arley and Live Stock in Canada.............................. 3
Barley Prices, Fifteen Years of............................. 26
Business Organizations, in Canada, Farmers'................. 62

**C**heese, Charge Account Records of Purchases of, by 92 Families in the Cities of Oshawa and Montreal............................ 89
Club Work, Canadian Council of Boys and Girls............... 52
Credit, Farm, Provincial System in Quebec................... 95

**D**ried Out Areas of Prairie Provinces, Assistance to Farmers in.......... 73

**E**conomic Situation, The..................................... 1
Economic Situation, The..................................... 17
Economic Situation, The..................................... 33
Economic Situation, The..................................... 49
Economic Situation, The..................................... 65
Economic Situation, The..................................... 81

**F**armer's Business Organizations in Canada.................. 62
Farm Labour in Carleton and Victoria Counties, New Brunswick........ 22
Farm Operations, Financial Results of Two Years' in New Brunswick.... 90
Fruit and Vegetables, Survey of The Marketing of, in the City of Toronto and the Surrounding District............................ 48

**G**roup Settlements: Ethnic Communities in Western Canada, Economic Literature.................................................. 79

**I**nternational Conference at St. Andrews........................ 80

Land Settlement, Economic Literature.......... 32
Land Utilization in Carleton and Victoria Counties, New Brunswick...... 11
Land Utilization, Farm Production, and Rural Living, Antigonish County, Nova Scotia, A Study of.......... 37
Land Utilization in Southwest Central Saskatchewan.......... 84
Land Utilization Objectives in the Alberta Study.......... 70
Life Insurance in Southern Saskatchewan, Some Facts Concerning...... 6
Life Insurance Carried by Farmers in Lomond and Vulcan Districts, Alberta 76
Live Stock, Barley and, in Canada.......... 3

Maple Products, Some Data on the Consumption of.......... 72
Marketing Legislation in New Zealand.......... 68
Marketing of Fruits and Vegetables in the City of Toronto and the Surrounding District, Survey of.......... 48
Markets, Terminal.......... 14
Markets, Terminal.......... 19
Meats, Survey Relating to the Consumption of, in Canadian Cities........ 74
Milk, Cost of Production Study.......... 74
Milk Consumption in Canada, More Facts Concerning.......... 56
Milk Consumption in Canada, Some Facts Concerning.......... 35
Milk, Reducing the Costs of Transporting.......... 29

New Zealand, Marketing Legislation in.......... 68

Outlook, The Agricultural, 1937.......... 92
Outlook, Service, The.......... 30

Prairie Provinces, Assistance to Farmers in Dried Out Areas of.......... 73

Quebec, Credit Farm Provincial System in.......... 95

Unemployment: An Industrial Problem, Economic Literature.......... 95

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## THE ECONOMIC SITUATION

Wholesale prices fell fractionally in November and December, 1935, but remained close to the high level established in October. The year ended with the index 1.4 points above December, 1934. The course of wholesale prices during 1935 was subject to only minor fluctuations, with a slightly upward tendency throughout the year. The year-end decline took place mainly in the cases of vegetable products, animals and their products, and non-ferrous metals and their products. A gain of 0.7 was recorded by wood, wood products and paper over the October figure. Other changes were of minor importance. The decline in the index of animal products follows a sharp rise from August to October.

***Retail Prices.***—Retail prices continued to rise during November and December, reaching 80.8 for December. This is the highest point since September, 1932. The December, 1935, index was 1.8 points above that of the same month a year ago. The increase took place in the indexes of food and fuel, while those of rent, clothing and sundries remained constant.

***Physical Volume of Business.***—The index of the physical volume of business reached a high for the year in November at 110.0. This high level was not maintained during December however and the index at the close of the year was 106.2. This compares with an index of 92.4 for December, 1934. This index fluctuated a good deal throughout 1935 and the high level reached in November may be accounted for in part by the very marked increase in automobile production, the index of which rose from 60.2 in October to 115.2 in November. This rise was brought about by the early showing of the 1936 models. Mineral production was lower for November, but recovered again in December. Manufacturing reached a high for the year in November, at 118.5, but fell to 112.5 during December. The construction index fell sharply during the last two months of the year and closed below the level of December, 1934. The index of agricultural marketings reached a seasonal low in December and was 2.0 points below the same month of 1934. This decline was more pronounced in the case of grain marketings, although live stock marketings were also lower. Cold storage holdings increased during November and December, but were still below the 1934 levels for the same months.

***Prices of Agricultural Products.***—After reaching in October, 1935, the highest point in five years, the wholesale index of Canadian farm products receded slightly for November, but recovered partially in December. The November decline was evidenced in the index of prices for field products, while the index of animal products continued the rise which commenced in July, 1935. The December index of animal products reached the highest point since April, 1931. The 1935 average index for farm products was 63.4, the highest for any year since 1930. Steady improvement has been shown in this yearly figure since 1932. All classes of live stock recorded higher prices during December, with substantial gains reported in the prices of steers, calves, hogs and lambs.

ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.8 | 106.2 | 108.8 | 34.0 | 133.4 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p. 52, and Monthly Mimeographs 1934 and 1935.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100. Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

*Trade Conditions.*—The total trade of Canada increased from $1,174 millions in 1934 to $1,293 millions in 1935. Of this increase $72 millions were in the form of exports and $37 millions in imports. The excess of commodity exports over imports in 1935 amounted to $192 millions. Agricultural products showed little change in the two years just passed. In 1935 imports of agricultural and vegetable products amounted to $109,689,841 compared with $109,201,542 for 1934. Exports of the same commodities were $229,821,600 in 1935 compared with $229,380,466 in 1934. Animals and animal products showed an increase of exports amounting to approximately $17 millions while imports increased $2.4 millions. Other important increases in exports occurred in wood, wood products and paper, and minerals of all classes. After taking into consideration the trade in coin and bullion, the so-called favourable trade balance of Canada amounted to $297,351,899 for 1935, compared with $252,152,067 for 1934.

The proportion of Canada's trade with the countries of the British Empire, the United States, and other foreign countries remained practically constant throughout 1934 and 1935. On the import side of the balance 31.6% of the total came from within the British Empire; 56.8% from the United States and 11.6% from other countries. Exports to the United Kingdom accounted for 51.3% of the total; the United States took 34.1% of the total, and 14.6% went to other countries.

The movement of wheat in international trade remains at a low level. Total shipments of wheat and wheat flour for the first twenty-six weeks of the current crop year amounted to just over 245 million bushels according to Mr. Broomhall's figures. For the same period of 1934–35, the total was 264 million bushels. Canada's share of this trade has increased somewhat over the previous year. In 1934–35, average weekly shipments amounted to 10.2 million bushels, of which 3.4 million bushels were supplied by North America (mostly Canada). For the 1935-36 crop year, North America has shipped 3.9 million bushels weekly of a total weekly average figure of 9.4 million bushels. Exports of live stock, chiefly to the United States, continue to increase and prospects in this regard appear encouraging.

## BARLEY AND LIVE STOCK IN CANADA

H. R. HARE[1]

Barley is the greatest cereal crop in Canada from the standpoint of producing live stock feed units per acre. A study of the long time average yield of this crop computed on a total digestible nutrient basis reveals that no other crop in any province attains to the high standard set by this cereal. Table No. 1 shown below sets forth a comparison of barley, wheat, oats and rye yields expressed in this feed unit.

TABLE 1.—COMPARATIVE LONG TIME AVERAGE YIELD OF CEREALS IN TOTAL DIGESTIBLE NUTRIENTS IN CANADA BY PROVINCES* †

| — | Barley | Wheat | Oats | Rye |
|---|---|---|---|---|
| Canada | 100 | 89 | 81 | 78 |
| Prince Edward Island | 100 | 82 | 75 | — |
| Nova Scotia | 100 | 88 | 85 | 83 |
| New Brunswick | 100 | 87 | 71 | 85 |
| Quebec | 100 | 90 | 72 | 85 |
| Ontario | 100 | 96 | 63 | 67 |
| Manitoba | 100 | 86 | 84 | 78 |
| Saskatchewan | 100 | 91 | 87 | 84 |
| Alberta | 100 | 90 | 86 | 71 |
| British Columbia | 100 | 93 | 92 | 70 |

*Computed from data collected by the Dominion Bureau of Statistics.

†Digestible protein + digestible carbohydrates + fat × 2.25 = total digestible nutrients—Henry and Morrison Feeds and Feeding.

In four of the provinces, barley excells its nearest competitor by more than 10% and in some provinces surpasses oats and rye as a feed producer by 30% or more. In the three prairie provinces where in most years two-thirds or more of Canada's barley crop is produced and where the live stock feeding enterprise is steadily becoming more important this point is of considerable significance. Were feed value the only factor which influences the acreage seeded to barley in Canada, no doubt the acreage in succeeding years would tend to increase more rapidly than it has been.

---

[1] Assistant Economist, Economics Branch, Department of Agriculture, Ottawa.

One of the counter-balancing factors influencing farmers in planning their acreage to be seeded to barley is the cash return per acre. For the harvest years 1930 to 1934, the average cereal yields of the prairie provinces multiplied by the average farm prices show that wheat has exceeded other cereals in providing cash returns per acre as expressed in Tables 2 and 3.

TABLE 2.—AVERAGE CASH RETURNS PER ACRE OF CEREALS PRODUCED IN THE PRAIRIE PROVINCES 1930–1934
(Av. Yield × Av. Farm Price)*

| — | Wheat | Oats | Barley | Rye |
|---|---|---|---|---|
| | $ | $ | $ | $ |
| Manitoba | 6.79 | 4.68 | 4.47 | 3.85 |
| Saskatchewan | 4.81 | 3.45 | 3.28 | 1.95 |
| Alberta | 7.22 | 5.68 | 5.29 | 2.23 |
| Prairie Provinces | 5.85 | 4.38 | 4.19 | 2.28 |

*Computed from data collected by the Dominion Bureau of Statistics.

In comparing Tables 1 and 3, one notes that wheat has had an advantage in providing cash returns per acre greater than barley's lead over wheat in producing live stock food value. The superiority which barley possesses over other cereals in producing additional live stock food value per acre will make an appeal to the cereal producer who is growing cereals for feed purposes on his own farm but will have little attraction to the farmer producing the cereal as a cash crop.

TABLE 3.—COMPARATIVE AVERAGE CASH RETURNS PER ACRE OF CEREALS IN THE PRAIRIE PROVINCES, 1930–1934*

| — | Wheat | Oats | Barley | Rye |
|---|---|---|---|---|
| Manitoba | 100 | 69 | 66 | 57 |
| Saskatchewan | 100 | 72 | 68 | 41 |
| Alberta | 100 | 79 | 73 | 31 |
| Prairie Provinces | 100 | 75 | 72 | 39 |

*Computed from data collected by the Dominion Bureau of Statistics.

During the past few years hog numbers on farms have been dropping but present indications point to increased interest in hog feeding.[2] This activity will tend to change the attitude of cereal producers but one other factor which may have some influence in barley acreage will be the debt situation in the prairie provinces. Though debt adjustment legislation designed to provide relief in this connection has been successful in some measure, there no doubt will still be a tendency to direct attention to those farm enterprises from which early cash returns may be expected. These are factors which no doubt will influence future barley acreage. Undoubtedly it is to the economic advantage of Canada that barley be produced to relieve the pressure of wheat on grain markets and that it be fed to live stock. In this connection, it is of interest to analyse the disposition of Canada's barley crop, which is made possible by data from the records of the grain trade. These set forth the barley distribution on a percentage basis.

Table 4 shows that the disposition outlets account for barley volumes in each year which differ greatly when compared one with another. During the five-year period, a relatively high percentage has been "exported," "stored," and "fed on farms or otherwise used." Other outlet channels have for the most part accounted for lesser percentages. The percentage disposed of in some channels tends to be constant from year to year, while other disposition outlets show great annual variation.

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[2] Agricultural Situation and Outlook, 1936.

TABLE 4.—DISTRIBUTION OF THE TOTAL AVAILABLE BARLEY SUPPLY OF CANADA IN PERCENTAGES*

| —— | 1930–31 | 1931–32 | 1932–33 | 1933–34 | 1934–35 |
|---|---|---|---|---|---|
| Exported | 11 | 13 | 6 | 2 | 19 |
| Milled for consumption | 1 | 1 | 1 | 1 | 1 |
| Malting and brewing | 2 | 4 | 5 | 7 | 7 |
| Seed | 4 | 7 | 7 | 9 | 10 |
| Stored | 17 | 7 | 12 | 14 | 9 |
| Lost in cleaning | 1 | 1 | 1 | 4 | 2 |
| Fed on farms or otherwise used | 64 | 67 | 68 | 63 | 52 |

*Computed from data compiled by the Dominion Bureau of Statistics.

This variation is due in a large measure to the great fluctuations in the total volume of barley available for distribution for the several years which has formed the base in calculating the percentage distribution. There has, however, been much change in the volume absorbed by some of the channels of distribution as revealed in Table 5.

TABLE 5.—RANGE OF VOLUME OF BARLEY IN CANADA DISTRIBUTED THROUGH THE DIFFERENT CHANNELS 1930–31 TO 1934–35*

| —— | High year | | Low year | | Range during 5-year period million bushels |
|---|---|---|---|---|---|
| | Year | Million bushels | Year | Million bushels | |
| Available for distribution | 1930–31 | 177.7 | 1934–35 | 80.4 | 97.3 |
| Exported | 1930-31 | 19.2 | 1933–34 | 1.7 | 17.5 |
| Milled for consumption | 1930–31 | 1.3 | 1934-35 | 0.7 | 0.6 |
| Malting and brewing | 1934–35 | 6.0 | 1930–31 | 3.0 | 3.0 |
| Retained for seed | 1934–35 | 7.7 | 1933–34 | 7.2 | 0.5 |
| Stored | 1930–31 | 29.5 | 1934–35 | 5.5 | 24.0 |
| Lost in cleaning | 1933–34 | 2.9 | 1932–33 | 0.8 | 2.1 |
| Fed on farms or otherwise used | 1930–31 | 116.9 | 1934–35 | 44.1 | 72.8 |

*Computed from data compiled by the Dominion Bureau of Statistics.

In the disposition of the Canadian barley crop, no outlet should be slighted. That portion disposed of for "Malting and brewing" deserves special mention because of the premium prices paid for this quality of barley and because of its consequent influence in improving barley quality generally. That volume designated as "Fed on farms or otherwise used" however is of extreme importance for two reasons:—(1) The volume of barley used in this channel is particularly large, exceeding that disposed of through all other channels combined; and (2) the volume of barley for available distribution from year to year is variable and dependent on vagaries beyond the farmer's control, and during the past 5 years greatly varying annual quantities of barley have been used as live stock feed. This disposition outlet has been the great shock absorber whereby the annual production variations have been equalized. Live stock production has not varied in ratio with Canadian barley yields and has been forced to rely on feed cereals generally rather than barley alone. Any progress toward levelling out the annual barley production yields in Canada will aid materially in the development of the interdependent live stock feeding industry.

# SOME FACTS CONCERNING LIFE INSURANCE IN SOUTH-WESTERN SASKATCHEWAN[1]

W. J. HANSEN[2]

During the summer months of 1935, the Farm Management Department of the University of Saskatchewan, Saskatoon, in co-operation with the Agricultural Economics Branch of the Department of Agriculture, Ottawa, conducted an economic survey of farms in the southwestern part of the Province of Saskatchewan in the Municipalities of Chaplin, No. 164; Glen Bain, No. 105; Gravelbourg, No. 104; Pinto Creek, No. 75; Shamrock, No. 134; Waverley, No. 44; and Wood River, No. 74.

The main purpose of the survey was to determine farmers' progress resulting from farming operations under the methods of land utilization which prevailed during the period of settlement. The areas included in the study had experienced successive years of drought accompanying which in many places was severe injury from soil drifting. In connection with this project, data were secured regarding past and present life insurance contracts undertaken by farm operators. The information on life insurance together with other data collected in these survey projects is now being analysed, but from preliminary examinations of the data on insurance which have been made the following summary is presented.

***Size of Sample.***—The number of farm management records secured during the course of the survey represents approximately 30% of the total number of farm operators in these municipalities. This large number of records can be considered representative of the whole area.

TABLE 1.—NUMBER OF FARM OPERATORS WITH LIFE INSURANCE CONTRACTS IN FORCE IN 1935

| Rural municipalities | Number of farm records obtained | Number of farm operators having insurance | Percentage of farm operators having insurance |
|---|---|---|---|
| 1. Chaplin | 115 | 23 | 20.0 |
| 2. Glen Bain | 136 | 25 | 18.4 |
| 3. Gravelbourg | 146 | 45 | 30.8 |
| 4. Pinto Creek | 21 | 5 | 23.8 |
| 5. Shamrock | 124 | 18 | 14.5 |
| 6. Waverley | 137 | 24 | 17.5 |
| 7. Wood River | 160 | 41 | 25.6 |
| Total | 839 | 181 | 21.6 |

At the present time only 21.6% of the farm operators in these municipalities are protected by life insurance (Table 1). The Municipality of Gravelbourg had the highest and Shamrock the lowest percentage of farm operators with life insurance.

TABLE 2.—TYPES OF LIFE INSURANCE PROTECTION NOW CARRIED BY FARM OPERATORS

| Type of policy | Number of policies | Percentage |
|---|---|---|
| 1. 20-pay life | 127 | 50.4 |
| 2. Club insurance | 42 | 16.7 |
| 3. Life | 40 | 15.9 |
| 4. 20-year endowment | 38 | 15.1 |
| 5. Other | 5 | 1.9 |
| Total in force | 252 | 100.0 |

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[1] Preliminary statement, subject to revision and correction.

[2] Agricultural Assistant, Economics Branch, Department of Agriculture, Ottawa.

The distribution of life insurance protection now carried by farm operators is shown in Table 2 according to types of insurance. It will be noted that the percentage of 20-pay life policies is three times as large as any other type of insurance, and is the dominating type of insurance protection now held by farm operators. It is beyond the present scope of this article to discuss the relative merits of the various types of insurance protection so held by farm operators.

TABLE 3.—TOTAL NUMBER OF EACH TYPE OF INSURANCE CONTRACTED AND DROPPED DURING THE LIFE TIME OF FARM OPERATORS

| Type of policy | Number of policies contracted | | Number of policies discontinued | Percentage dropped in each type |
|---|---|---|---|---|
| | Number | Per cent | | |
| 1. 20-pay life | 480 | 57.4 | 347 | 72.3 |
| 2. 20-year endowment | 175 | 20.9 | 135 | 77.1 |
| 3. Life | 110 | 13.1 | 70 | 63.6 |
| 4. Club insurance | 53 | 6.3 | 11 | 20.8 |
| 5. Other types | 19 | 2.3 | 13 | 68.4 |
| Total | 837 | 100.0 | 576 | 68.8 |

In Table 3, the relative position of various types of life insurance over the whole period is shown. Of all life insurance contracted during the present life time of the farm operators, 68.8% has been discontinued. The relative rank of each type of insurance may be compared in Tables 2 and 3. It will be noted that 20-pay life and life policies occupy the same relative positions with respect to other types. The Club insurance has risen from fourth to second place and 20-year endowment policies have fallen from second to fourth place among the types of insurance now in force. The other types of insurance on which Tables 1 and 2 are based include the following: 15- and 30-year endowments; endowments at 40; 60; 65; 15-pay life; annuity at 65; Industrial and Accident.

TABLE 4.—AMOUNT OF LIFE INSURANCE CONTRACTED, PAID UP, IN FORCE, AND DROPPED BY FARM OPERATORS

| Rural municipality | Amount of life insurance protection contracted | Amount of life insurance paid up | Amount of life insurance contracts in force | Amount of life insurance contracts discontinued |
|---|---|---|---|---|
| | $ | $ | $ | $ |
| 1. Chaplin | 146,000 | — | 46,000 | 100,000 |
| 2. Glen Bain | 330,500 | 1,000 | 77,500 | 752,000 |
| 3. Gravelbourg | 501,150 | 5,000 | 157,150 | 339,000 |
| 4. Pinto Creek | 61,100 | — | 19,000 | 42,100 |
| 5. Shamrock | 221,550 | — | 74,500 | 147,050 |
| 6. Waverley | 242,500 | 1,000 | 60,500 | 181,000 |
| 7. Wood River | 414,870 | 4,000 | 118,700 | 292,170 |
| Total | 1,917,670 | 11,000 | 533,350 | 1,353,320 |
| Percentage | 100.0 | 0.6 | 28.8 | 70.6 |

In Table 4, it will be seen that the total amount of life insurance contracted by 837 policies amounted to $1,917,670; of this amount 70.6% has been dropped. Of the total amount of life insurance contracted only $11,000 or 0.6% of the whole is represented by paid up policies.

TABLE 5.—COMPARISON OF OWNERS AND RENTERS WITH RESPECT TO THE CARRYING OF LIFE INSURANCE PROTECTION

| Farm operators | Owners | | Renters | |
|---|---|---|---|---|
| | Number | Per cent | Number | Per cent |
| With insurance protection | 459 | 65.6 | 74 | 53.2 |
| Without insurance protection | 241 | 34.4 | 65 | 46.8 |
| Total | 700 | 100.0 | 139 | 100.0 |

In Table 5, a comparison of present owners and renters with regard to the percentage with and without life insurance protection is given. Life insurance is carried by a larger proportion of the owners than of the tenants.

***Life Insurance Protection of Owners and Tenants.***—These data were analysed in order to determine whether there had been any significant difference between the types of policies in force by owners and tenants. For both owners and tenants the "20 Payment Life" type was the principal type in force. The "20 Year Endowment" type ranked second for tenants and fourth for owners. The straight life type occupied second place in importance for owners and fifth place for tenants. For owners, "Life" and "Club" policies were of equal importance. "Life" policies were not very significant for tenants.

Tenants had in force 10% more of those types of insurance that may be classed as investment type, than had owners. Owners accounted for 90% of all policies in force.

TABLE 6.—TYPES OF LIFE INSURANCE POLICIES IN FORCE BY OWNERS AND TENANTS —1935

| Type of policy | Owners | | Tenants | |
|---|---|---|---|---|
| | Number of policies | Percentage of total | Number of policies | Percentage of total |
| 20 Pay Life | 115 | 50.8 | 12 | 46.1 |
| Club | 38 | 16.8 | 4 | 15.4 |
| Life | 38 | 16.8 | 2 | 7.7 |
| 20 Year Endowment | 33 | 14.6 | 5 | 19.2 |
| Other | 2 | 0.8 | 3 | 11.6 |
| Total | 226 | 100.0 | 26 | 100.0 |

TABLE 7.—CASH SURRENDER VALUE, AMOUNTS OWING AND EQUITIES OF LIFE INSURANCE POLICIES IN FORCE

| | Amount | Percentage of cash surrender value |
|---|---|---|
| | $ | |
| Cash surrender value, 1935 | 174,586 | — |
| Owing on policies in force: | 70,969 | 40.6 |
| Premiums in arrears, $56,085 | | |
| Borrowed on policies, $14,884 | | |
| Equity of policies in force | 103,617 | 59.4 |

In Table 7, the cash surrender value of policies in force has been shown. Against the cash surrender value there is shown the amounts owing against the policies for premiums in arrears and borrowings, which equalled 40.6% of the cash surrender value. The present equities remaining in the policies in force amounted to 59.4% of the cash surrender value.

TABLE 8.—AGES OF FARM OPERATORS AT TIME INSURANCE WAS DISCONTINUED

| Age group | Frequency | Percentage of farm operators falling in each group | Age group | Frequency | Percentage of farm operators falling in each group |
|---|---|---|---|---|---|
| 16–20 | 7 | 1.2 | 46–50 | 92 | 16.0 |
| 21–25 | 36 | 6.2 | 51–55 | 74 | 12.8 |
| 26–30 | 55 | 9.6 | 56–60 | 14 | 2.4 |
| 31–35 | 81 | 14.1 | 61–65 | 12 | 2.1 |
| 36–40 | 91 | 15.8 | | | |
| 41–45 | 114 | 19.8 | Total | 576 | 100.0 |

In Table 8, the farm operators who reported having discontinued insurance are shown in age groups together with the frequency distribution. It is significant that 53.0% of the farm operators having dropped insurance were over 40 years of age and 17% over 50. Apparently the difficulties attending their farming operations have been too great to permit them to continue the protection of life insurance when it is most needed.

***Reasons Given for Discontinuing Life Insurance Protection.***—Three principal reasons were given by farm operators for having dropped life insurance protection. The predominating reason, accounting for 85% of all policies dropped was that of being unable to meet premiums because of other pressing financial obligations and sheer inability to pay. Policies were also dropped by farm operators taking out the cash surrender value of the policies and by a combination of borrowing on insurance and unpaid premiums.

TABLE 9.—REASONS GIVEN BY FARM OPERATORS FOR DISCONTINUING LIFE INSURANCE PROTECTION

| Reason | Number of policies discontinued | Percentage discontinued of total |
|---|---|---|
| Inability ot meet premium | 492 | 85.5 |
| Drew out cash surrender value | 17 | 2.9 |
| Combination of borrowing on insurance and unpaid premiums | 67 | 11.6 |
| Totals | 576 | 100.0 |

More than 50% of the policies dropped were in force for a period of five years or less, and 13 % of the policies were in force for one year only. The highest percentage of policies were dropped after they had been in force three years and is accounted for by the fact that premiums must be paid for three years before policies have a cash surrender value. It is evident that on 9% of all policies, contracted, farm operators were unable to make more than the initial first premium payment.

TABLE 10.—NUMBER OF YEARS POLICIES IN FORCEHAVE BEEN CARRIED, AND NUMBER OF YEARS POLICIES WERE CARRIED BEFORE BEING DROPPED BY FARM OPERATORS

| Number of years policies were in force | | Number of policies discontinued | Number of policies in force in 1935 |
|---|---|---|---|
| Years | All policies | | |
| 1–5 | 341 | 295 | 46 |
| 6–10 | 224 | 168 | 56 |
| 11–15 | 132 | 71 | 61 |
| 16–20 | 107 | 34 | 73 |
| 21–25 | 13 | 3 | 10 |
| 26–30 | 4 | 1 | 3 |
| 31+ | 7 | 4 | 3 |
| Total | 828 | 576 | 252 |

At this point it should be mentioned that the great majority of farm operators knew little about such matters as extended insurance or other salient features in connection with their policies. Some farm operators did not remember the name of the insurance company with which they were insured. Most farm operators were certain about the amount of the premiums payable, but a good number were doubtful as to the type of policy which they had contracted.

***Life Insurance per Head of Population.***—The average amount of life insurance per head of population in southwestern Saskatchewan in 1935 was $196, or one-third of the average amount of life insurance per head for the whole of Canada.[3] The average value of life insurance per head of dependents of insured farm operators amounted to $375. Taking into consideration, however, the present cash surrender value of the policies, less the amounts against the policies for unpaid premiums and on account of loans, the value of the equity per dependent in 1935 amounted to $146. In connection with this calculation "Club" policies in force have not been included because they have no cash surrender value.

TABLE 11.—AMOUNT OF LIFE INSURANCE PROTECTION IN FORCE IN RURAL MUNICIPALITIES PER HEAD OF POPULATION AND DEPENDENTS—1935

| Rural Municipality | | Amount in force | Population | Amount of insurance per head of population | Number of dependents of insured | Amount of insurance per head of dependents |
|---|---|---|---|---|---|---|
| | | $ | No. | $ | No. | $ |
| Chaplain | No. 164 | 46,000 | 342 | 137 | 193 | 238 |
| Glen Bain | No. 105 | 77,500 | 513 | 151 | 342 | 226 |
| Gravelburg | No. 104 | 157,150 | 511 | 307 | 351 | 448 |
| Pinto Creek | No. 75 | 19,000 | 63 | 302 | 46 | 413 |
| Shamrock | No. 154 | 74,500 | 396 | 188 | 217 | 343 |
| Waverley | No. 44 | 60,500 | 424 | 143 | 244 | 248 |
| Wood River | No. 74 | 118,700 | 520 | 228 | 350 | 359 |
| Totals | | 553,350 | 2,769 | 196 | 1,743 | 375 |

The 252 policies in force in 1935 had a net equity of $103,617, averaging $572 per policy holder, or $411 per policy. Dependents of insured operators totalled 709. The net equity per dependent averaged $146.

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[3] Canada Year Book, 1934–35.

## LAND UTILIZATION IN CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK

IAN McARTHUR[1]

The counties of Carleton and Victoria in the Province of New Brunswick were selected in 1935 for the purpose of a general farm management and cost of production of potatoes survey by the Economics Branch in co-operation with the New Brunswick Department of Agriculture. These two counties are located in the west central section of the Province, bordering the State of Maine, and broken by the upper St. John river. The two counties comprise a total of over 2 million acres, of which 597,874 acres were designated as farm land in the Census of 1931. This represents a reduction in farm land of 31,098 acres since 1921. Large areas in the Province of New Brunswick are still under forest.

The two counties included in the survey have the highest percentage of improved farm land of any in the Province. In Carleton county, over 53% of the farm land was improved in 1931, while in Victoria, 38% was improved. The number of occupied farms has been declining slightly for the past twenty years, but the size of the farms increased from 133 acres in 1911 to 148.8 acres in 1931. Table 1 presents the figures for the last three census years pertaining to the utilization of farm lands in these two counties. Prior to 1911 the county of Victoria was joined with the present county of Madawasca, making a comparison of previous years impossible.

TABLE 1.—NUMBER OF FARMS AND UTILIZATION OF FARM LANDS PER FARM IN THE COUNTIES OF CARLETON AND VICTORIA, NEW BRUNSWICK. CENSUS DATA 1911, 1921 AND 1931

| —— | 1931 | 1921 | 1911 |
|---|---|---|---|
| Number of farms | 4017 | 4499 | 4728 |
| Total farm area | 148.8 | 137.2 | 133.0 |
| Improved Land | 72.4 | 66.8 | 62.4 |
| Field crops | 57.9 | 46.9 | 48.6 |
| Idle or fallow | 0.3 | 1.3 | 0.1 |
| Orchard | 0.4 | 0.4 | 0.4 |
| Pasture | 12.4 | 14.8 | 12.9 |
| Other | 1.4 | 3.4 | 0.4 |
| Unimproved Land | 76.4 | 70.4 | 70.6 |
| Woodland | 68.0 | 63.4 | 60.5 |
| Natural pasture | 5.0 | 3.8 | 7.7 |
| Waste | 3.4 | 3.2 | 2.4 |

***Improved and Unimproved Land.***—Slightly over 50% of the farm land of the counties remains unimproved, but the acreage of improved land per farm is increasing with the size of the farms. Woodland is the chief item of the unimproved portion, accounting for sixty-eight acres per farm. Of the improved land 57.9 acres were devoted to field crops in 1931.

The farms included in the farm management survey showed a considerably larger acreage than the average for the two counties. This difference may be attributed to the fact that in the survey only farms growing five or more acres of potatoes in 1934 were included. The farms were selected at random, with an effort to secure as representative a sample as possible of the farming in the area. However, as special emphasis was being placed on the potato enterprise, many farms had to be omitted. On these farms, 56.7% of the total area was improved land, as compared with 48.6% for the entire area. Comparison of land utilization between the farms included in the survey and for the counties as a whole is shown in Table 2.

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[1] Field Assistant, Economics Branch, Department of Agriculture, Ottawa.

TABLE 2.—UTILIZATION OF FARM LANDS IN CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1931, AND ON 199 FARMS INCLUDED IN THE FARM MANAGEMENT SURVEY, 1934–1935

| — | Carleton and Victoria Counties, Census 1931, 4,017 Farms | | Carleton and Victoria Counties, Survey 1934-35, 199 Farms | |
|---|---|---|---|---|
| | Acres | Per cent | Acres | Per cent |
| Total farm area | 148.8 | 100.0 | 190.5 | 100.0 |
| Improved Land | 72.4 | 48.6 | 108.2 | 56.7 |
| Field crops | 57.9 | 38.9 | 86.2 | 45.2 |
| Pasture | 12.4 | 8.3 | 22.0 | 11.5 |
| Other | 2.1 | 1.4 | — | — |
| Unimproved Land | 76.4 | 51.4 | 82.3 | 43.3 |
| Woodland | 68.0 | 45.7 | 75.7 | 39.7 |
| Natural pasture | 5.0 | 3.4 | — | — |
| Waste, yards | 3.4 | 2.3 | 6.6 | 3.6 |

***Field Crops.***—More than 64% of the area devoted to field crops was used in the production of hay and oats. While a considerable quantity of hay was sold for cash, the majority of the crop produced was used on the farms for feeding to live stock. The next crop in importance from the standpoint of acreage was potatoes, this crop being relied upon to provide the major part of the cash income on the farms included in the survey. It is interesting to note that the average acreage of potatoes per farm in the counties of Carleton and Victoria was higher than that for any other county in Canada, according to the 1931 Census. The neighbouring county of Aroostook, Maine, is one of the most highly specialized potato growing areas in the United States.

TABLE 3.—AREA OF FIELD CROPS PER FARM, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1931, AND ON 199 FARMS INCLUDED IN THE FARM MANAGEMENT SURVEY, 1934–1935

| — | Carleton and Victoria Census 1931 | | Carleton and Victoria Survey 1934–35 | | |
|---|---|---|---|---|---|
| | Acres per farm | Per cent of total | Farms with crop | Acres per farm | Per cent of total |
| Spring wheat | 0.7 | 1.2 | 150 | 2.1 | 2.5 |
| Barley | 0.8 | 1.4 | 95 | 1.5 | 1.7 |
| Oats | 15.9 | 27.5 | 199 | 25.4 | 29.5 |
| Buckwheat | 2.4 | 4.1 | 95 | 2.6 | 3.0 |
| Hay | 32.0 | 55.3 | 199 | 39.3 | 45.6 |
| Potatoes | 5.8 | 10.0 | 199 | 13.8 | 16.0 |
| Other | 0.3 | 0.5 | 115 | 1.5 | 1.7 |
| Total | 57.9 | 100.0 | 199 | 86.2 | 100.0 |

A small acreage was devoted to spring wheat and buckwheat, chiefly for the purpose of supplying flour for household use. Barley was grown on less than 50% of the farms included in the survey and is not an important crop in the area. Other crops included peas, beans, fruits and vegetables.

The farm community in this section of New Brunswick ranks well up among the self sufficient farming areas of the Dominion.

***Crop History.***—Yields per acre of grains produced in New Brunswick were slightly higher for the ten year period, 1925–1934, than for the Dominion as a whole. The Dominion averages were lower because of adverse weather conditions on the Prairie Provinces. The average yield per acre of potatoes was 112.2 cwt., for New Brunswick, as compared with the Dominion average of 81.8 cwt. Climate and soil conditions in New Brunswick appear to be particularly suited to the production of potatoes. Yields of hay were slightly lower in New Brunswick. The yields per acre of grains do not show very wide fluctuations from the ten year averages, but for potatoes and hay the production per acre has been subject to wide variations.

TABLE 4.—YIELDS AND VALUES PER ACRE OF PRINCIPAL FIELD CROPS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1925-1934

| Year | Wheat per acre | | Oats per acre | | Barley per acre | | Potatoes per acre | | Hay per acre | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Yield | Value | Yield | Value | Yield | Value | Yield | Value | Yield | Value |
| 1925 | 16.9 | 31.10 | 30.2 | 18.12 | 25.4 | 19.05 | 105.8 | 188.32 | 1.7 | 19.41 |
| 1926 | 16.5 | 29.37 | 25.0 | 17.75 | 20.8 | 19.14 | 142.5 | 188.10 | 1.5 | 16.12 |
| 1927 | 14.4 | 23.47 | 25.7 | 19.79 | 23.0 | 23.92 | 89.5 | 95.98 | 1.3 | 13.75 |
| 1928 | 17.8 | 29.55 | 30.3 | 21.21 | 27.6 | 28.15 | 129.7 | 45.40 | 1.4 | 14.95 |
| 1929 | 18.8 | 35.16 | 30.4 | 24.02 | 27.4 | 27.13 | 102.8 | 138.78 | 1.3 | 15.81 |
| 1930 | 18.8 | 18.80 | 32.5 | 13.00 | 29.7 | 17.82 | 121.9 | 79.24 | 1.5 | 16.72 |
| 1931 | 18.5 | 15.91 | 31.0 | 11.78 | 28.9 | 15.32 | 107.0 | 26.75 | 1.7 | 11.90 |
| 1932 | 17.7 | 15.58 | 31.3 | 10.33 | 27.7 | 14.68 | 80.0 | 40.0 | 1.6 | 11.84 |
| 1933 | 20.1 | 19.10 | 29.3 | 11.72 | 26.0 | 15.86 | 115.0 | 57.50 | 1.1 | 12.76 |
| 1934 | 20.4 | 20.40 | 30.6 | 13.16 | 27.2 | 16.32 | 128.0 | 42.24 | 1.1 | 14.96 |
| 10 yr. average | 18.0 | 24.30 | 29.3 | 16.12 | 26.4 | 20.06 | 112.2 | 90.88 | 1.4 | 14.48 |
| Dominion average | 16.2 | — | 28.6 | — | 22.4 | — | 81.8 | — | 1.5 | — |

The value per acre of the crops produced shows material changes from year to year. The values for all crops reached low levels for the period 1931 to 1934. This has been especially true of the potato crop. The value of potato production reached a low of $26.75 per acre in 1931, compared with a return of $188.32 per acre in 1925. Low prices for agricultural products from 1931 to 1934 have not of course been confined to New Brunswick. The value of the hay crop per acre improved considerably in 1934, following two successive short crops.

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The thirteenth annual report of the Alberta Wheat Pool records progress made during the financial year ending July 15, 1935. During the year the pool handled 30,890,721 bushels of grain or over 27 per cent of the total for the province. This was an increase of 3,800,277 bushels over the previous year. A voluntary pool was opened and 703,767 bushels—double the amount of the previous year—was handled on this basis. The total payment for pooled No. 1 Northern, basis Vancouver, was 77.719c. per bushel. The Pool operated 415 country elevators and terminals at Vancouver, Victoria and Prince Rupert. After full provision for depreciation on buildings and equipment, and after payment of interest on government indebtedness, there was a deficit from elevator operations of $47,788.40. However earnings of sundry reserves amounted to $107,700.47, and thus, the member equity was increased by $59,912.07. The report reviews the world wheat situation, weather conditions, production, wheat marketing legislation and activities in Canada.

## TERMINAL MARKETS[1]

W. C. HOPPER[2]

The interest which is now manifest in Canada and in the United States in the establishment of modern wholesale terminal markets in or near the cities is the result of a realization of the fact that revolutionary changes have taken place in the past decade and a half in the methods of getting perishable farm products from the farm to the city. It is also a recognition of the significant changes in merchandising policies and in consumer habits. Most of our city markets are out of date, and, as a consequence, the costs of getting the necessary farm products from the producer to the consumer are much too high.

Formerly, locally grown fruits, vegetables, poultry, eggs and other perishable farm products brought to the city by horses and wagons were sold almost entirely at retail to householders who carried home their purchases in baskets. While there is still a considerable volume sold at retail by producers direct to city consumers, the largest proportion of such farm commodities reach the city householder through retail agencies, which in turn must purchase their needs at wholesale from jobbers, truckers and producers.

Business growth, encroaching steadily on older residential sections of our cities, larger city populations, expanding city residential areas, more wide-spread knowledge of the value of fruits and vegetables in the diet, the private automobile, the chain store, the apartment house, and the desire on the part of the city families for greater services in connection with the obtaining of their food requirements have all been important influences which have been at work in changing consumer-buying practices and increasing the demand in our cities for fresh fruits and vegetables. In response to this increased demand, the supply of such products has been greatly enlarged, and the area devoted to the production of these commodities has been very much extended. Motor trucks have replaced horses as a means of getting these articles of food from the farm to the city.

Not only has the local supply been increased, but the year-round volume shipped in by rail from distant areas has also been greatly enlarged. The motor truck has made it possible for smaller centres of population to obtain, from the larger city markets, daily supplies of fruits, vegetables and other perishable farm products, and much of the produce which is received by rail and truck in the larger cities, such as Toronto and Montreal, is finally consumed in households many miles away from these cities.

*Inadequate Facilities.*—As a result of these new developments in production, transportation and marketing of farm products, we have arrived at a point where market distribution within a city is necessarily a complicated matter. The development of vehicles for transportation and the construction of highways leading to the cities have largely kept pace with the increased demand for farm products, but in the cities, very little has been done to improve the facilities for the transfer of these products from the increasing number of sellers to the many types of buyers. Marketing studies have always shown that a large proportion of the consumer's dollar goes to pay distribution costs and in the handling of perishable farm products it is in the cities that the greatest waste and maladjustments in market distribution occur. If the price-spread between producer and consumer is to be decreased, it is in the city that the greatest opportunity lies for doing so.

Public markets which were built to accommodate incoming products from nearby farms for the consumers of one city alone have in many cases become regional markets, and in some instances provincial and national markets, drawing produce from an extensive supply area to meet the demands of an ever-spreading region of demand.

Many of the existing market places which were constructed for horse traffic at a time when no one could foresee the great increase in city population which would take place, have become hopelessly inadequate to accommodate the vast increase in the supply of farm products brought to them by motor trucks. The location of city markets has in many cases become quite unsuitable. When the city householders purchased their supplies direct from farmers, the market in the heart of the city was probably suitably located, but the growth of the city and the great increase in city traffic since the advent of the automobile and the motor truck has rendered markets in such locations uneconomical and inefficient. Not only is the space on many markets inadequate for the sellers, but proper parking facilities for buyers' vehicles cannot be provided except at a cost which would be enormous, and the purchase of adequate space in such a location would be wholly uneconomical. City market laws and market management have also become antiquated.

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[1] Paper read at the Annual Meeting of the Fruit Grower's Ass'n of Ontario and the Niagara Peninsula Fruit Growers' Ass'n, Hamilton, Ont., Feb. 14, 1936.

[2] Chief, Division of Marketing, Economics Branch, Ottawa.

In many cities the carlot receivers are located at present at some distance from the railroad and must incur heavy and unnecessary handling costs because it is not possible to have direct rail connections to their places of business. The costs unnecessarily involved by growers, truckers and carlot receivers because of lack of proper market facilities must be borne by someone, and it is certain the growers contribute a substantial share.

As a consequence of the absence of suitable markets, a considerable proportion of the products required for city consumption may in some cities be sold direct to stores. This practice may require much of the grower's time which could be more profitably employed in the production of the products he has to sell. In the absence of a proper wholesale market growers cannot be as well informed as to what is the correct price for the commodities they have to offer to these retail agencies.

*Present Requirements.*—A terminal market should be so located that the produce can be transported to it at the lowest possible cost, that the market can be operated at a minimum expense to all concerned, and that it should be of such a size that there is adequate accommodation for those who sell as well as for those who wish to buy. It should be arranged and equipped for unloading, display and sale without loss of time, and for the rapid and economical transfer of farm products from the sellers to the buyers.

What is needed is a type of market centre which fits not only this description but which is properly managed to develop the whole project as a vital service to the consumers of the area. This latter point is especially important as it offers great possibilities in the way of better correlation of consumer demand with market supply through the adoption of regulations applying to weights and measures and to the grading of the products offered for sale.

With a market of this kind, the volume of farm products which may be disposed of should be enlarged, the costs of distribution should be substantially reduced, a price properly adjusted to the existing supply and demand conditions should prevail, and the producers should obtain a larger share of the consumer's dollar.

Without proper marketing facilities in our cities, demoralized market conditions are likely to prevail. Since the motor truck now brings to the city a large proportion of its requirements of perishable products, it is impossible to determine the daily volume of such food stuffs arriving in the city before trading begins. With truckloads of fruits, vegetables and other farm products arriving at all hours of the day and night, buyers become reluctant to purchase for fear that large supplies arriving at a later hour will break prices and involve them in losses. The absence of stabilized marketing conditions may, therefore, result in a restricted distribution of farmers' products. When well-located terminal markets of adequate size are provided, it should be possible to establish a satisfactory system of reporting arrivals and impending arrivals before the usual sales period opens for the day, and, with definite hours set for trading on the market, all the supply and all the demand will be concentrated and more equitable prices should be the result.

***Types of Terminal Markets.***—A number of different kinds of public market are in use in Canada and in the neighbouring states of the Union. There are markets where sales by growers and truckers are almost entirely in retail quantities; there are other markets where produce is sold at both retail and wholesale; and there are still others where all or practically all of the produce is sold at wholesale. The wholesale, or terminal markets, may be divided into three types: first the market at which only commodities arriving by rail are sold; second, the market confined to the handling of produce arriving by motor truck; and, finally, the joint terminal market where both rail and truck-borne produce are offered for sale. Practically every city can support one or more retail markets, but it is the wholesale, or terminal, market that we are discussing today. The trend in the United States at the present time is towards the joint wholesale terminal market where facilities are provided for the exchange of produce brought to it by railroads and by motor trucks. The cities of Buffalo and Albany, N.Y., have new markets of this type and a new joint terminal market at Syracuse, N.Y., is now under construction.

It has been demonstrated that even for cities as large as Buffalo, only one terminal wholesale market can expect to succeed. If two such markets are constructed in the same city, one is doomed to almost certain failure. Millions of dollars have been lost in the ill advised construction of public markets in United States cities, and Canada might well benefit by the experiences of her neighbors. It has been found that buyers will go to the market where there is the largest supply and the most varied display of the products they desire to purchase. In the interests of low costs of city distribution, the farmer and trucker market should be in close proximity to the terminal for produce shipped in by rail, and in some cases consideration must also be given to boat shipments. In this connection let me quote from a report prepared in February, 1935, at the request of a committee made up of representatives of various divisions of the United States Federal Government. The report is entitled "Public Necessity Calls for Federal Aid in Modernizing Terminal Markets."

"Another aspect of what happens under the competitive system of building markets in cities and how difficult it is to create them is found in Buffalo. In 1925 and 1926 the city built two covered retail markets at a reported cost of $1,000,000. In 1930 the trade and two different railroads built separate combined-terminal-and-farmers' markets located about four miles apart at a total cost of $9,443,681. This, with the city's expenditure, made a total of $10,443,681. At the present time, the two city markets and one of the terminal markets are practically out of business.

"It appears that between six and seven million dollars might have been saved in Buffalo. From cost figures that we have on regional markets in New York State, this sum would in all probability have built the six regional markets and twenty-five secondary markets included in the original State Marketing Program proposed by the Department of Agriculture and Markets which included Buffalo."

***Comprehensive Studies are Essential.***—Before any definite action is taken to locate and build a market, it is wise, and perhaps I may say essential, to have a comprehensive study made of the whole market situation in and about the particular city concerned. Such a study would reveal necessary facts on the volume of produce coming to the city, the proportion brought by growers, truckers, railroads and boats, the areas from which it is transported, the volume consumed in the city, the amount which is shipped out again to other places and where these places are located, how the various retail agencies now obtain their supplies and the likelihood of retailers using a new terminal market, and a great deal of other information on the prevailing supply and demand conditions. The cost and suitability of various sites for the location of the market, the experience of other cities in solving their market problems, the best method of financing a market, and the most desirable method of operation and management are a few of the other problems on which information should be sought.

Experience in the United States indicates clearly that markets which have been started without proper consideration being given to these necessary facts have usually failed, with losses of large sums of money.

With the essential facts available, definite consideration can then be given to the matter of location, cost, size, layout, administration and financing of the new terminal market project.[3]

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[3] The remainder of this paper will appear in the next issue of the Annalist.

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# The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS

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## THE ECONOMIC SITUATION

There was little change in the index of wholesale prices in Canada during the first two months of this year. Vegetable product prices were slightly lower in February than in the previous two months. Animals and their products were unchanged in January but declined in February. Fibres, textiles and textile products also receded, and chemicals and allied products were fractionally lower: on the other hand, February indexes of wood, wood products and paper, non-ferrous metals and their products and iron and its products made small gains.

***Retail Prices.***—The index of retail prices reached 80.7 in January but receded to 80.4 in February. The index of retail prices of food declined one point and those of fuel and sundries advanced slightly. The rent and clothing indexes were not changed. The value of retail sales in February of this year at 69.1 was a little lower than in January but just the same as in February 1935.

***Physical Volume of Business.***—The index of the physical volume of business was 104.9 in February being more than one point below the index for December and fractionally lower than that for January. The index of industrial production declined to 104.9. Mineral production showed a substantial gain in February, the index rising to 186.2 compared with 144.4 in the previous month. Exports of nickel were considerably higher and shipments of both gold and silver were larger than during the month of January. Exports of asbestos and bauxite were also larger and coal production reached higher levels.

The index of manufacturing was little changed. Increased manufacture of cigars and cigarettes, larger exports of canned salmon, wood pulp, planks and boards largely offset declines in production of sugar, iron and steel, and construction. Distributive services showed some improvement. Agricultural marketings were higher in February, the movement of both grains and live stock being of larger volume. Among the grains, only flax marketings were of smaller volume. Shipments of calves were lower than in the previous month. Cold storage holdings showed a substantial increase, the index rising from 126.6 to 169.1. Holdings of eggs, cheese, beef and veal contributed largely to the increase in stocks on hand.

***Prices of Agricultural Products.***—The index of wholesale prices of Canadian farm products continues to rise slowly, the index for February being 66.0. The index of prices of field products showed a small recession; on the other hand, the index of prices of animals and their products was slightly above that for January; the total index was four points above that of February 1935.

The average price of No. 1 Manitoba Northern wheat, basis Fort William and Port Arthur, was 82.1 cents in February, compared with 84.8 cents in January. Prices of oats and barley were somewhat higher while prices of rye were slightly better and those of flax somewhat lower. The advance in prices of live stock was due to improvement in the monthly averages for hogs, calves and lambs. Prices of cattle were lower because of exceptionally heavy deliveries. Prices of eggs stiffened because of reduced supplies.

### ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.6 | 106.2 | 108.8 | 34.0 | 133.4 |
| 1936 | | | | | | | | | |
| Jan. | 72.9 | 65.9 | 59.0 | 77.5 | 80.7 | 105.2 | 107.0 | 39.8 | 143.4 |
| Feb. | 72.5 | 66.0 | 58.9 | 77.8 | 80.4 | 104.9 | 104.9 | 62.7 | 153.3 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p. 52, and Monthly Mimeographs 1934 and 1935.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100. Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

The European winter wheat acreage is somewhat lower than in 1934–35 and present indications are that the high yields which characterized recent crops may not occur this year. Prospects in the United States are rather better than in 1934–35.

Broomhall's record of world shipments from August 1, 1935 to March 14, 1936, was 313.5 million bushels compared with 326.5 during the same period of 1934–35. With the large reduction in the Argentine crop of 1935–36, the world supply of wheat has shifted. During the first 10 weeks of the calendar year of 1935, the Argentine shipped 40.5 million bushels, Australia 26.3 millions, Canada 23.1 millions and "Other Countries" 9.3 millions. During the first 10 weeks of 1936, Argentina shipped 10.8 millions, Canada 47.0 millions, Australia 34.0 millions, and "Other Countries" 14.8 millions, according to the Agricultural Branch of the Dominion Bureau of Statistics. It is reported too that on March 13, Canada's surplus for export or carryover was 244 million bushels compared with 272 millions a year ago. Increased competition from the U.S.S.R. and United States in 1936–37 appears probable although the policy of the United States' government respecting exports is not yet clear. The extent of Argentine competition may be influenced by governmental policy respecting the minimum price to be paid for Argentine wheat. Present prospects would indicate that Canada may continue to be the chief source of world supply until the end of 1936. An encouraging feature of the present crop movement is the fact that during February 1936, Canada supplied 50.8% of the total imports into the United Kingdom as against 29.3% in February 1935.

***Export Trade.***—For the twelve months ending February 1936, exports of apples were 2,412,240 barrels valued at $11,857,163, compared with 2,108,163 barrels valued at $10,511,024 during the twelve months ending February 1935. Canned vegetables exported amounted to 38,479,769 pounds and 21,238,184 pounds respectively, and the values were $1,612,950 in 1936 and $1,019,204 in 1935. During the same period 1,203,655 cwts. of bacon and hams were exported whereas during the twelve months ending February 1935, 1,301,239 cwts. were exported; the respective values were $19,344,573 and $20,693,410. Exports of cheese were 56,459,000 pounds valued at $6,574,765 during the period ending February 1936, compared with 60,294,000 pounds exported during a similar period ending February 1935 which were valued at $6,491,146.

## TERMINAL MARKETS[1]

W. C. Hopper[2]

Sufficient space is another important consideration. Terminal markets are built for many years to come, and in so far as is possible provision should be made for twenty or more years hence. It should be remembered that when a successful market is established, the adjoining land will become greatly enhanced in value, and if, in time, the original area devoted to the market becomes too small to efficiently handle the produce brought to it, the purchase of more land may prove a very expensive undertaking. For a joint terminal market in Toronto, for example, fifteen or more acres would appear to be necessary.

As rail connections for the stores of the wholesaler, jobber and commission merchants which are located close to the farmer and trucker terminal are essential features of a modern terminal market, the site selected must provide such facilities.

Other considerations to which attention must be directed in locating the market include:

1. The site should be accessible to the majority of the farmers and truckers who bring produce from the producing areas.
2. It should be at a point where the producer traffic and all other vehicular traffic incident to the market interferes least with the other traffic of the city.
3. The location should be such that rail traffic in perishable produce interferes least with other rail traffic of the city.
4. The site should provide suitable location for other lines of trade closely allied with the produce trade.
5. It should be possible to expand the market to the greatest extent without breaking up the plan for its general layout.

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[1] The first section of this article appeared in the February issue of the Economic Annalist.

[2] Chief, Division of Marketing, Economics Branch, Dept. of Agriculture, Ottawa.

6. The market should be of easy access to buyers who come to it in motor trucks and automobiles and be situated where ample parking facilities may be obtained.
7. The location of the market should be such as to interfere the least with the present residential zones.

It is seldom possible to find a site where all the desirable features set forth above are available. A city having such a site is most fortunate and the opportunity to acquire it should not be lost.

Because of its relation to the efficient operation of a market, market layout stands second in importance to a proper site.

***Market Layout.***—The results to be obtained in an ideal market layout are minimum handling costs, equalization of the value of market stalls and stores as sales space, efficient use of space, and convenience in the transfer of produce from the sellers' to the buyers' vehicles.

Minimum handling costs and convenience in the transfer of produce are attained by providing space on the market sufficient to enable the buyer to park his truck near those from whom he buys and by the use of a site the shape of which would permit of the orderly concentration of business around a central point. There are many details with respect to market layout which must be considered, but these details will not be discussed at this time.

***Financing, Operation and Administration.***—Before a new market can be created, funds must be provided from one source or another. The sites for many existing public markets have been given by the cities in which they are located. As markets in our larger cities have grown up from city to regional, provincial or even national markets, the city cannot be expected to bear the entire costs of the construction, operation and management of new wholesale terminal markets. Some of the newer markets in the United States have been erected with funds borrowed by farmers' co-operative associations from the Federal Treasury, to be paid back over a long period of time. In other cases the railroads have furnished the site and financed the construction of the new terminal, leasing the space for the sale of produce by growers and truckers to a Growers' Co-operative for a period of years.

In New York State, the terminal markets at Syracuse and Newburgh are being constructed by corporations created by the State Legislature, which are called Regional Market Authorities. These corporations were created for the purpose of building and operating the public markets within a Regional Market District. The Regional Market District in the case of the Syracuse area is composed of six counties in which is produced the major portion of the produce sold on the farmer and trucker section of the Syracuse market. The Board of Directors of the Regional Market Authority is composed of thirteen members. The Commissioner of Agriculture for New York State is a member ex-officio, and the six Boards of Supervisors (County Councils) of the counties of the regional market district appoint two members each to the Board of Directors, one of whom shall be actually engaged in farming and deriving the greater part of his income therefrom.

The Authority may acquire, lease, construct and operate market facilities within the district. It may execute contracts, bonds and other securities and sell or dispose of the same. It may borrow money from Federal or other agencies. It may employ managers and may fix and collect rentals and market fees.

In the case of the primary markets now under construction at Syracuse and Newburgh and the secondary market at Poughkeepsie, funds have been loaned by the Federal and State Governments for the projects, to be repaid over a long term of years from revenues collected through market fees and rentals.

Professor M. P. Rasmussen of Cornell University calls attention in a recent address to another possible source of funds for the construction of markets in the United States. He says, "Much attention is being paid at present to the erection of public works in an effort to relieve unemployment. Presumably, such public works should be of direct benefit to as large a proportion of the population as possible. Most of our large terminal markets serve very wide areas . . . . . The building of efficient food terminals in our cities through the elimination of congestion, spoilage, waste, re-handling and high cartage costs might reasonably be expected to benefit many millions of consumers dependent on such markets."

Market revenues include rents which wholesalers, jobbers and commission merchants who require stores will pay, and the annual seasonal and daily fees which will be paid by the growers and truckers and possibly some buyers for their stalls. At the new Albany market which is operated by a farmers' co-operative, the annual fees for leasing reserved market space are as follows:

| | |
|---|---|
| Farmers | $ 36.00 per year. |
| Farmer-dealers | 100.00 per year. |
| Trucker-dealers (minimum) | 250.00 per year. |
| Inter-city truckers | 25.00 per year. |
| Hucksters | 150.00 per year. |
| Local retailers | 5.00 per year. |
| City peddlers | 5.00 per year. |

The fee for leasing unreserved space by the day is as follows:—

| | |
|---|---|
| Farmers | $ .50 per day. |
| Farmer-dealers | 2.00 per day. |
| Trucker-dealers (minimum) | 5.00 per day. |
| Hucksters | 3.00 per day. |

At the Syracuse market, which is now operated as a city market but which will be under a Regional Market Authority when the new market in this city is created, the fees are as follows:

| | Producers | Dealers |
|---|---|---|
| 12 months | $60.00 | $120.00 |
| 6 months | 40.00 | 80.00 |
| 3 months | 30.00 | 60.00 |
| 1 day | .40 | 1.00 |

It is argued that the fees of the trucker or trucker-dealer, who is really "a jobber on wheels", must be placed at a higher level than the fees of growers, because truckers usually handle much larger loads, they usually come to the market on market days the year round more regularly than producers, and they have no other investment but their motor trucks. Another argument which has been advanced for charging the trucker more than the farmer is that he is rather difficult to control and is liable to bring in supplies purchased at bargain prices at some distant point which enables him to dominate the market on any particular commodity for the day. The farmers, on the other hand, must finance their farms as well as their marketing, and the resident jobbers and commission merchants with whom the truckers also compete must pay rent, light, heat and other expenses involved in operating a store.

It has already been pointed out that there are different controlling bodies which may administer wholesale terminal markets, namely, the city in which the market is located, the Regional Market Authority, the farmers' co-operative or the railroad which has built the market. As the use and value of wholesale terminal markets of to-day are no longer confined to the city at or near which the market is located, it would appear that the exclusive control and management should no longer be vested in the city. As wholesalers, jobbers, commission merchants, growers and truckers are all vitally interested in such a market as well as the city consumers and out of town buyers, it would appear desirable that all the interests concerned, or at least the major part of them, should be represented in the body administering the market. If funds are obtained from the provincial or the federal government, advisory government representatives might also be desirable.

It is doubtful if any new market has ever been created without objections from some individual or group of individuals. In many cases these objections may appear at first to be quite legitimate but when the true facts of the whole situation are revealed, the opposition often becomes dissipated to a large degree. If it can be clearly shown that the erection of a new market will work an undue hardship on some group of sellers or buyers every consideration must be given to the alleviation of this injury, still keeping in mind the benefit that will accrue by the new project to the majority concerned.

## FARM LABOUR IN CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK

Ian McArthur[1]

The question of farm labour and its cost has been receiving more attention in recent years, as farmers and research workers in agricultural economics have been endeavouring to find ways and means of reducing farm costs. In the analysis of the data secured in the farm management survey conducted in the counties of Carleton and Victoria, New Brunswick, during the summer of 1935, some interesting facts have been brought out concerning the supply and cost of farm labour. The major cash crop of the area is potatoes. Farmers devote approximately one-third of their time to the production of this crop. The division of labour on these farms, according to enterprises is indicated by Table 1.

Table 1.—The division of labour on basis of Productive man work units, Carleton and Victoria Counties, New brunswick, crop year, 1934–35

| Enterprise | Productive-man-work-units | Per cent of total |
|---|---|---|
| Potatoes | 144.7 | 33.5 |
| Other crops | 143.8 | 33.3 |
| Live stock | 122.0 | 28.2 |
| Outside labour | 21.7 | 5.0 |
| Total | 432.2 | 100.0 |

The term "productive-man-work-unit" is used to represent the number of ten hour days of man labour required per head of productive live stock and per acre of crops. In the case of the potato crop, the days of labour required were secured in detail from the farmers. Productive-man-work-units necessary in connection with the production of other crops, live stock and outside labour were estimated by use of a standard designed to suit farming conditions in New Brunswick.

The total figure for productive man work units shown in Table 1, indicates that on the average 432.2 days of labour were required to operate the average farm included in the study. Assuming that there are approximately 300 working days in a year, it would have required one man, working full time and a helper, working about three months, to supply the labour requirements of these farms. This figure would approach the maximum efficiency in the use of labour and would require the farmer and his helper to be working practically every working day.

In view of the seasonal nature of much of the labour required on farms, especially where there is such a degree of specialization in the production of one crop as is the case on these New Brunswick farms, it is to be expected that the actual amount of labour utilized would exceed the amount necessary to handle the work on the basis of productive-man-work-units.

The average amount of family labour and hired labour available on the farms included in the study totalled 27.2 months per farm, or the equivalent of two men working full time and one man working 3.2 months of the year. The months of available labour were made up of 11.7 months of the operator's labour; 9.0 months of family labour, and 6.5 months of hired labour per farm. A summary of the amounts of labour available, the rates of wages paid to hired labour and the estimated valuation of unpaid labour is shown in Table 2.

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TABLE 2.—SUMMARY OF PAID AND UNPAID LABOUR, RATES OF WAGES AND TOTAL COST PER FARM ON 199 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35

| Item | No. of farms with this item | Total M'ths. of labour per farm | Average monthly wage | Total cost per farm of labour |
|---|---|---|---|---|
| | | | $ | $ |
| Paid labour | | | | |
| Year help | 27 | 1.6 | 22.06 | 35.92 |
| Month help | 97 | 3.3 | 22.58 | 73.76 |
| Day help | 180 | 1.6 | 44.60 | 71.49 |
| Total paid | 191 | 6.5 | 27.88 | 181.17 |
| Board, paid labour | 191 | 6.5 | 8.89 | 57.78 |
| Total cash outlay | 191 | 6.5 | 36.77 | 238.95 |
| Unpaid labour | | | | |
| Operator | 199 | 11.7* | 35.00 | 410.85 |
| Operator's family | 122 | 9.0 | 21.33 | 192.69 |
| Total unpaid | 199 | 20.7 | 29.06 | 603.54 |
| TOTAL PAID AND UNPAID LABOUR | 199 | 27.2 | 30.97 | 842.49 |

* Eleven operators did not work full time on their farms.

***Types of Labour.***—Labour was hired by all but 8 of the 199 farmers included in the survey. Day labour hired during the rush season of seeding, haying and potato digging was the most frequent type of labour hired. This class of labour was reported on 180 of the farms. Only 27 farmers kept a hired man for the entire year and 97 farmers hired men by the month during the summer season.

The average monthly wage of a man hired by the year was $22.06. Men hired by the month received an average wage of $22.58 per month. Day labourers were paid an average of $1.72 per day, or $44.60 per month. This rate is somewhat above the prevailing rate for day help, chiefly because men hired for digging and picking potatoes are usually paid on a piece-work basis, rather than by the day. The average wage paid to all farm labourers was $27.88. A charge was made for the board of paid labourers living on the farm. This charge for board averaged $8.99 per month, bringing the total cash outlay for labour and board up to $36.77 per month.

All of the farm operators worked at least part of the time on their Mwn farms However, eleven of these men had other regular occupations, such as game wardens, drovers and salesmen. Unpaid family labour was available on 122 of the 199 farms. Operators estimated their time to be work an average of $35.00 per month. This average rate was used for all farm operations. The average value paid on unpaid family labour was $21.33 per month.

The total cost of hired labour on a per farm basis including board was $238.95. When the value of the unpaid labour of the operators and that of their families was added

TABLE 3.—PERCENTAGES OF HIRED LABOUR, FAMILY LABOUR AND OPERATOR'S LABOUR ON THE BASES OF TIME AND VALUE, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, SURVEY 1934–1935

| Type | Per cent of time | Per cent of cost |
|---|---|---|
| Hired | 23.8 | 28.4 |
| Family | 33.3 | 22.9 |
| Operator | 43.1 | 48.7 |
| All farms | 100% | 100% |

to the value of paid labour, the total cost of all labour and board amounted to $842.49 per farm.

On the basis of time 23.8% of the labour was hired; 33.1% was provided by members of the family other than the operator and 43.1% was the work of the operator himself. The cost of hired labour per month was slightly higher than the allowance made for the operator's time and considerably above the estimated value of family labour. On the basis of labour costs, the percentages provided by each type of labour was somewhat different, due to the difference in values of the various types of labour.

***Labour on Potato Crop.***—Labour requirements for the growing, harvesting and storing of the potato crop in 1934 averaged 93.3 hours per acre. The greater part of this time was devoted to the growing of this crop. Ploughing required 6.9 hours per acre. Farmers ploughed an average of approximately one and one-half acres of land per day. The land was disked on only a few of the farms, but harrowing was practised in most cases. Considerable time was devoted to picking stones off the potato land. Almost all of the soil of the area tended to be stoney, although some of the farms had been quite thoroughly picked in the past.

TABLE 4.—MAN AND HORSE LABOUR REQUIREMENTS OF POTATOES PER ACRE ON 199 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35 CROP YEAR

| Item | Man labour hours | Horse labour hours |
|---|---|---|
| Manuring | 4.2 | 5.4 |
| Ploughing | 6.9 | 14.2 |
| Disking | 0.5 | 0.8 |
| Harrowing | 3.0 | 6.0 |
| Picking stones | 3.4 | 3.9 |
| Hauling fertilizer | 1.7 | 3.2 |
| Mixing fertilizer | 1.6 | — |
| Seed preparation | 7.0 | — |
| Applying fertilizer | 0.2 | 0.2 |
| Hand planting | 0.3 | — |
| Machine planting | 4.5 | 5.9 |
| Horsehoeing | 6.8 | 13.3 |
| Weeding | 2.1 | — |
| Cultivating | 7.2 | 14.2 |
| Rogueing | 1.1 | — |
| Repairing equipment | 2.0 | — |
| Mixing spray and dust | 0.2 | — |
| Spraying | 5.0 | 8.1 |
| Dusting | 0.1 | 0.6 |
| Total growing | 57.8 | 75.8 |
| Hand picking | 21.2 | — |
| Machine digging (horse) | 6.1 | 12.3 |
| Machine digging (tractor) | 0.3 | — |
| Cleaning up field | 1.5 | 1.7 |
| Total harvesting | 29.1 | 14.0 |
| Hauling to farm storage | 4.9 | 8.7 |
| Hauling to hired storage | 0.7 | 1.2 |
| Labour in storage | 0.8 | — |
| Total storage | 6.4 | 9.9 |
| TOTAL LABOUR | 93.3 | 99.7 |

Fertilizer was generally hauled to the farms by the farmers themselves and in many cases the individual ingredients were mixed on the farms. Commercial fertilizer was generally applied at the same time as the seed was planted. Cutting seed required an average of about 1 hour of labour per barrel. There was a wide variation in the amount of seed cut per day, but from 8 to 10 barrels was considered a good day's work. Planting was done by machine in almost all cases.

Horsehoeing and cultivating were the most important cultivation practices after the crop was planted. The number of times these operations were repeated depended upon weather conditions and the condition of the soil. Spraying was usually repeated at least four times. Those who grew seed for certification devoted some time to rogueing the crop. Picking of the crop at harvest time required the greatest amount of man labour and this work was generally done by hired labourers, although in some cases sufficient family help was available to handle the job. Digging was done almost entirely by machine. A final day was usually devoted to cleaning up the field and burning the stubble.

***Labour and Size of Business.***—The amount of labour utilized in producing an acre of potatoes did not vary a great deal as the size of business increased, but the rate charged per hour was lower on the larger farms because of the fuller use to which labour was put on these farms. As a result of the reduction in the rate charged, the labour cost per acre of potatoes was lower on the larger farms.

Table 5.—Relation of size of business to labour costs in the production of potatoes

| Productive-man-work-units | Acres of potatoes | Hours per acre | Rate per hour | Labour charge per acre |
|---|---|---|---|---|
| | | | ¢ | $ |
| 0 - 300 | 8.5 | 94.0 | 24.1 | 22.65 |
| 301 - 400 | 10.2 | 92.6 | 21.6 | 20.00 |
| 401 - 500 | 15.5 | 91.6 | 18.9 | 17.31 |
| 501+ | 19.6 | 95.2 | 18.4 | 17.52 |
| All farms | 13.8 | 93.3 | 19.8 | 18.47 |

The type of labour also changed with the size of the farm business. The percentage of work done by the farm operator himself became lower and consequently the percentage of hired labour became higher. Changes in the percentages of the various types of labour used on a time basis is shown in Table 3.

Table 6.—Relation of size of business to the type of labour used on 199 farms, Carleton and Victoria Counties, N.B., survey 1934–35

| Productive-man-work-units | Per cent of hired labour | Per cent of family labour | Per cent of operator's labour |
|---|---|---|---|
| 0 - 300 | 13.8 | 23.7 | 62.5 |
| 301 - 400 | 15.9 | 36.2 | 47.9 |
| 401 - 500 | 25.9 | 32.5 | 41.6 |
| 501+ | 31.8 | 34.8 | 33.4 |
| All farms | 23.8 | 33.1 | 43.1 |

Co-operative shipments of live stock in Nova Scotia 1935

| —— | Number | Value | Average |
|---|---|---|---|
| | | $ | $ |
| Lambs | 8,032 | 34,914.62 | 4.10[1] |
| Hogs | 476 | 8,449.29 | 17.75 |
| Calves | 33 | 153.59 | 4.65 |
| Cattle | 120 | 2,074.07 | 17.28 |
| | | 45,591.57 | |

Thirty local shipping clubs in Nova Scotia were active during 1935. Shipments were smaller than in 1934. The larger decrease was in number of cattle shipped which dropped from the unusually high figure of 1,002 in 1934—a year of drought—to 120 in 1935. The average return per head was higher in 1935. These increases amounted to $9.29 per head for cattle, $3.03 per head for hogs and 74 cents per head for lambs. Shipment was made through the Canadian Livestock Co-operative (Maritimes) Ltd., and fertilizer was also handled through this organization.

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[1] Average value of lambs is exclusive of shipments of ewes to Newfoundland.

# FIFTEEN YEARS OF BARLEY PRICES[1]

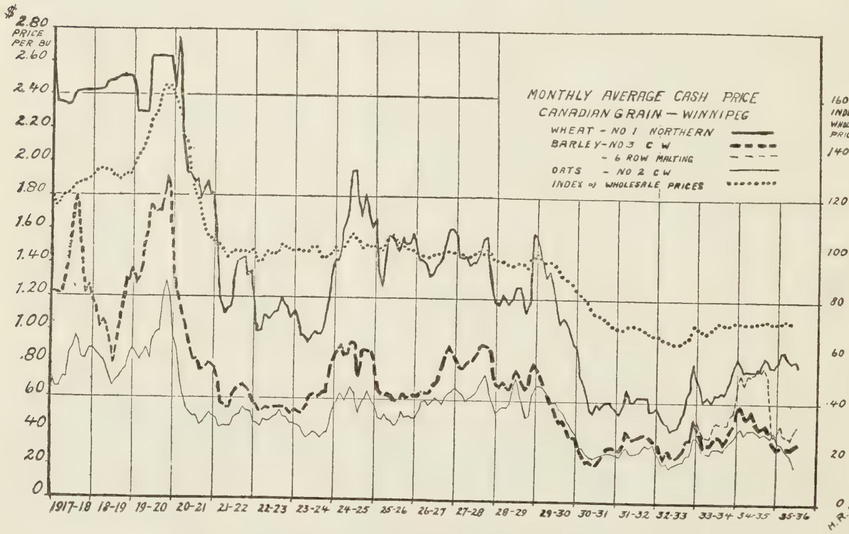
H. R. HARE[2]

Commodity price changes during the past 15 years have been so violent and rapid that many students have found difficulty in keeping pace with the fluctuations. The dips and rises which have occurred in connection with barley and other related commodity prices have been no less difficult to follow. The graphs and charts which accompany this article are the writer's modest attempt to summarize fifteen years of Canadian cereal price and production history and to show in part the effect on certain phases of the live industry.

Figure 1 pictures the average monthly cash prices of No. 3 C. W. barley, No. 1 Northern wheat and No. 2 C. W. oats at Winnipeg from 1917 to the present, and for the past two and one-half years it shows the price of six-row malting barley. The peak price of No. 3 C. W. barley occurred in June 1920 when the monthly average price was set at $1.92 per bushel. The lowest point was recorded in October 1932 for which month the average price was 25.8 cents. The high point of oat prices was reached at the same time as barley and wheat just three months later. The high points attained by No. 1 Northern wheat and No. 2 C. W. oats were $2.77 and $1.29 per bushel respectively.

In studying the prices as recorded in the chart, it will be noted that the prices of various grains tend to move up and down simultaneously but they do not retain at all times the same relationship one to the other. Changes in the comparative supply or demand factors account for the great bulk of the apparent irregularities. This is shown very clearly as pertaining to both qualities of barley recorded in the chart. During 1934 and 1935 there was a short and low quality crop of barley produced in the United States and barley of malting quality was exceedingly scarce. Canada's barley crop had also been low. While barley of malting quality generally yields a price premium over 3 C. W. barley of from 3 to 7 cents per bushel, it is recorded during 1934 and 1935 that malting barley at Winnipeg commanded a premium at one point during that period of 25 cents per bushel over 3 C. W. barley. The handsome premium paid for malting barley over 3 C. W. at this point was caused by the relative

CHART NO. 1



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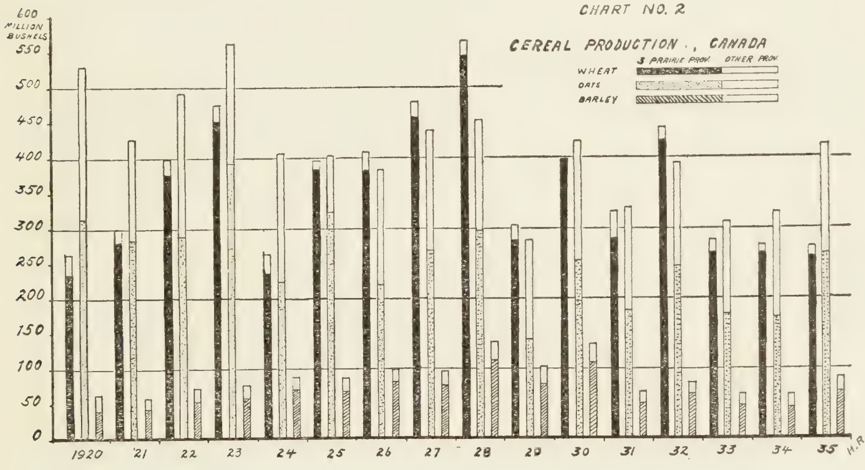
[1] Paper presented at The National Barley Committee Meeting, Toronto, March 11, 1936.

[2] Assistant Economist, Economics Branch, Ottawa.

supply and demand situation. Again the chart shows that the price of No. 3 C. W. barley was lower than that of No. 2 C. W. oats in 1929 and 1930 and again in 1935. Similar conditions obtain for the other cereals and to grades within these cereals.

The slump of 1921 and continued low price period of 1922 and 1923 were followed by comparatively high prices from 1924 to 1930. Prices dropped to an unprecedented low during 1931 and 1932. The price of wheat has gradually risen from then to the present, as also did prices of barley and oats until September 1934. Since that time, barley and oat prices have tended to move downward and in inverse direction to that of wheat.

The explanation of these facts is that Canadian wheat and coarse grains are consigned to different markets and reflect the supply and demand situations in these different markets. Canadian wheat prices are affected very largely by world wheat prices while domestic conditions regulate prices for coarse grains. The world wheat surpluses have been gradually disappearing and this no doubt has been a factor resulting in higher wheat prices with a certain degree of stability The coarse grains market is influenced largely by the Canadian demand for feed. During the last few years, the prices of live stock and live stock products have been low and the purchasing power of live stock farmers has been restricted. Hog numbers have decreased considerably. Many farmers have fed less and consequently the demand for feed grains has gone down, carrying coarse grain prices with it. During the depression, farmers in live stock areas have been forced to feed such grain as they grew and have purchased little to supplement home grown feed. Thus, it is that we have experienced a gradual widening of the prices of wheat and coarse grains.

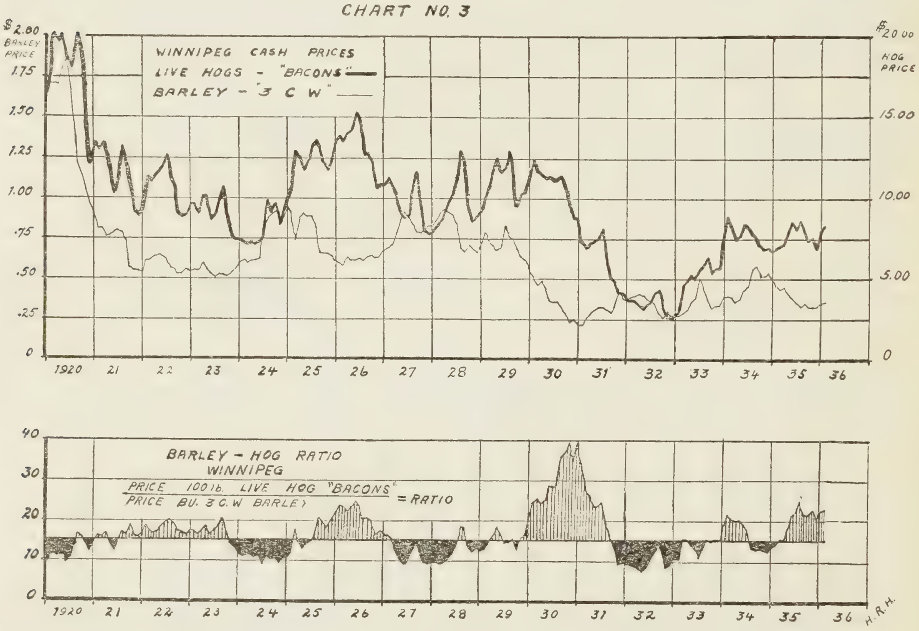


The index of wholesale prices has been charted on Figure 1 and is so based as to correspond with the average wheat price of 1926. It will be noted that there is a tendency for cereal prices to follow the index of wholesale prices, but during the 1921 depression and since 1930 cereal prices have been much lower than wholesale prices. A study of the graph gives reason to expect that cereal prices will rise to a point above that now prevailing, but world crop conditions and purchasing power may move in such directions as to offset any predictions.

Figure 2 is presented to show the great variation in the cereal supply from year to year in Canada since 1920. This chart depicts Canadian yields of wheat, oats and barley for each year. It may be noted that in 1933 and 1934, the total cereal yields were among the lowest cereal production years shown on the chart. Yields of wheat and oats have varied greatly, and barley yields, though small compared to wheat and oats, were in 1933 and 1934 about half those obtained in crop year of 1930.

As coarse grain prices are dependent on the live stock situation in Canada, and as those interested in marketing Canadian live stock products are attempting to regulate the volume of live stock which comes to market, it would appear to be good practice to exert every effort to smooth out annual fluctuations of yields in so far as possible. Further, as barley in every province of Canada yields a greater number of feed units per acre than other cereals, it would appear to be good economics for Canada to increase the proportion of barley sown on Canadian farms.

The solid section of each bar of Figure 2 depicts that portion of the Canadian crop grown in the three Prairie Provinces, while the balance of the bar represents that portion of the Canadian crop produced in all other provinces. From a study of this graph, one is impressed with the overwhelming proportion of the Canadian wheat crop grown on the Prairies. Wheat production in other provinces is comparatively small. The out-turn of oats is much more evenly distributed over Canada than wheat. Much the greater proportion of the Canadian barley crop is produced on the Prairies but the proportion is not so great as in the case of wheat.



The close relationship of coarse grain prices and conditions in the Canadian live stock industry has prompted the writer to prepare Figure 3. We recognize that in the corn belt of the United States in which hog production has attained great intensity—where some individual farmers produce as many hogs as do the farmers of many whole counties in Ontario—that the corn-hog ratio is followed very closely. In the top section of Figure 3, the Winnipeg market prices of 3 C.W. barley on a bushel basis and live hogs on the hundredweight basis have been presented. The barley price scale, shown on the left is just 1/10 of that of the hog price scale shown on the right. The average monthly price of live hogs for the 16 year period 1920–1935 was $9.72 per hundredweight and for barley 63.4 cents per bushel. On this basis, it took on the average 15.3 bushels of barley to equal the price of one hundred pounds of live hogs. On the lower section of Figure 3, the ratio of these prices is plotted. This ratio is secured by dividing the monthly average price of one hundred pounds of live hogs by the monthly average price of one bushel of barley. The two sections shown on Figure 3 represent similar periods of time and it will be noted that when the barley price lines and hog price lines converge that the ratio line appears below the base line of the lower graph, and when the price lines of the upper section are widely separated that the ratio appears positive to the base line, as shown in the lower section. Briefly, it may be stated that as it took on an average for the whole period 15.3 bushels of barley to equal the price of one hundred pounds of live hogs, that the profitable periods in hog production were those periods when the price of a greater number than 15.3 bushels of barley were required to equal the price of one hundred pounds of live hog These periods are shown above the base line in the lower section of the chart. One may note that these periods have appeared as cycles, with a certain degree of uniformity, 2–3 years profitable periods followed by 2-3 of unprofitable prices. A cursory study of the chart would indicate that while the ratio between barley and hogs at Winnipeg at the moment is favourable to hog production, the favorable ratio has continued for such length of time that we are due at any time to move to a less profitable point for hog producers.

During the past few years, however, such changes have been effected in normal marketing procedure through regulation of the marketing of hogs in Britain that one cannot use historical data to predict with precision market situations which are influenced by new factors. At the moment, the barley-hog ratio is favourable to the hog producer, and those who have hogs to finish say within five to six months should do well with them.

While barley is recognized as one of the best feeds for hogs, one finds that in Canada that hog producers do not hold to barley as closely as the United States hog producers hold to corn. For this reason, the barley-hog ratio has not come into such frequent use in Canada as has the corn-hog ratio in the United States. To those farmers who are buying feed, the barley-hog ratio is of greatest significance.

## REDUCING THE COSTS OF TRANSPORTING MILK

"The greatest opportunity for effecting savings and bringing about economic stability in transportation of milk lies in reducing the mileage that milk is haulded and in increasing the volume per load" is a statement contained in a paper presented by Dr. R. W. Bartlett of the University of Illinois at the last annual meeting of the American Farm Economic Association. Dr. Bartlett goes on to show how these savings may be accomplished by citing the experience of the producers' association in Dayton, Ohio. This association commenced a re-routing program in the spring of 1930 and completed it in the early part of 1931. The results of this program were summed up in a paper entitled "The Co-operative Control of Hauling" which was presented at the annual meeting of the National Co-operative Milk Producers' Federation by Mr. C. W. Lawrence, the general manager.

"After the northern section had been re-routed in the fall of 1930, the southwest and east sections of our milkshed were re-routed, making the re-routing program complete. The total of 17 trucks (out of a total of about 47) were eliminated, and the hauling rate was reduced on an average of almost ten cents per hundred pounds, which meant a saving of over $50,000 to the farmers the very first year that this re-routing was accomplished."

A careful analysis was made of a selected area in the Dayton milkshed to determine what was done to obtain lower hauling costs. The results of the re-routeing program in this selected area were the elimination of five of the fourteen routes hauling milk for 506 producers in this area; the round-trip mileage was reduced from 847 to 526 miles or a net reduction in mileage of 38%; the average volume per truck was increased from 1,835 pounds to 2,855 pounds per day or a net increase of 56%; the average hauling rate paid by producers was reduced from 40 to 30 cents per 100 pounds or a net reduction of 25%; the average income per truck was increased from $6.81 to $7.74 per day or a net increase of 14%. With fewer routes, milk was delivered to distributors' plants one hour earlier than formerly. This helped producers to deliver milk in better condition, particularly during the summer months.

"Reasonable returns to truckers are necessary in any long-time economic program. Not infrequently, the practice of bidding for routes has resulted in a trucker accepting a hauling rate lower than his actual labour and operating costs. Such a trucker is bound to be both a discontented and disturbing influence in the market. It is a much better business practice to reduce mileages and arrange routes so that a full load can be hauled and then pay the trucker actual operating costs plus a reasonable return for labour."

"The re-routing program was accomplished in the following ways: In the first place, at the request of producers in a given area, a careful study was made by the association of existing conditions, and hauling routes were mapped and rearranged on an economic basis. A series of meetings were then held in the local area, at which maps were shown and discussed until the producers became thoroughly familiar with the proposed changes. Following this, the association with the assistance of a local committee made arrangements for eliminating certain routes in spite of the many objections from the truckers. Frequently a trucker was paid a given sum for giving up his route and agreeing not to truck milk for a five-year period. Producers benefiting by the elimination of the route paid for this with savings effected—usually within a period of six months. All negotiations were made by the association at the request of local member groups. Centralized authority in the re-routing program was essential to its success."

## AGRICULTURAL OUTLOOK SERVICE

The Agricultural Outlook Service in Canada has been a development of the past four years. In 1932 the Department of Farm Management, University of Saskatchewan, published the first issue of the Farm Outlook for Saskatchewan. Almost simultaneously the Agricultural Outlook for Nova Scotia appeared. "The Agricultural Situation" was published by the Departments of Agriculture and Trade and Commerce of the Dominion Government in January, 1934. The following year the Title was changed to "The Agricultural Situation and Outlook". These reports have continued to serve large numbers of readers in their respective spheres, and in March of this year the Ontario Agricultural Outlook Report was presented for the first time. Thus, in the space of four years, three provinces, as well as the Dominion Government, have made an annual appraisal of the outlook for Agriculture.

These reports do not represent a duplication of effort, each having its own place. The report published by the Dominion presents an analysis from the national point of view, whereas the provincial reports enable the amplification of certain lines of production in which the province in question may be especially interested. It is recognized, of course, that additional extension work will be necessary before the maximum benefit will accrue from such activities but there has been substantial recognition of the place of Outlook reports in adjusting production to current demand. Evidence of the growing appreciation of such work may be found in the following editorial which appeared in the Winnipeg Newspaper Union "Mirror".

"At this time of the year farm owners, farm operators and others interested in agricultural production are necessarily giving a great deal of thought and attention to the all-important problem of what to raise and how much to produce during the 1936 season.

Time was when this problem, if it was a problem at all, was comparatively a simple one. All that was necessary to do was to divide the land already prepared and the additional acreage to be prepared in the spring into two portions, one area to be seeded to wheat and the other to oats, with some provision for a small plot for vegetables for household use. In those days there were one or two standard varieties of wheat and oats and all the farmer had to plan in advance was which of these he would seed, and when the spring came to go ahead and seed it. Having done this, his chances of reaping a fair crop yielding him a reasonable return for his labor were pretty good.

But those days are gone and probably gone forever. Down the corridor of the past two decades, the problem of what to raise and how much of it has become more complex with each succeeding year, and to-day the question bristles with so many complications and ramifications as to require the wisdom of a Solomon and the acumen of the proverbial Philadelphia lawyer, plus the insight of a skilful prognosticator if a reasonably satisfactory answer is to be the outcome.

If the farm operator in the prairie provinces wants to eliminate the gamble from his coming season's activities, he must not only be an experienced tiller of the soil and husbandman, but he also needs to be a student, a scientist, an economist and a meteorological expert. In other words he must achieve the unattainable.

When preparing his plans for the year's work the farmer not only has to take into consideration the condition of his land, the state of its suitability and preparedness for various types of crops, the probable availability of the kind of seed he would like to sow, the nature and extent of the hazard to which various crops and varieties may be subjected to deterioration and loss by insect pests and diseases, the probable effect of prospective weather conditions on those crops, the availability of nutriment in the soil required by different types of crops, the probable demand for the resultant yield in the local and world markets but many other factors which, for lack of space, must be dismissed in the auctioneer's phrase "too numerous to mention."

Many of these questions the farmer, because of his own circumstances and local conditions must decide for himself with very little assistance from outside sources, but fortunately there is aid available for him in his efforts to weigh probabilities and prospects of the effect of market trends, market conditions, national policies and to some extent even of international situations and relations on his intended acitivities, but even the information available on these factors can only be a guide, subject as they are and more particularly in recent years, to great and rapid fluxes.

One of the most valuable of these guides, entitled "The Agricultural Situation and Outlook, 1936" has just been issued by the Dominion Department of Agriculture with the co-operation of the Department of Trade and Commerce. The information it contains is compiled by the sub-committee on the agricultural outlook of the National Advisory Committee on Agricultural Services.

The government pamphlet contains a careful and concise survey of agricultural conditions as they existed in Canada in 1935, together with industrial conditions as they affected agriculture, beneficially and adversely, and the prospective position of agriculture for 1936, including some specific conclusions which cannot fail to be of material aid to every farmer who reads it.

As the foreword to this 52-page bulletin says: "This annual review of the position of Canadian agriculture contains basic information which will assist farmers in planning their business operations in 1936. It is, of course, impossible to take into consideration drastic changes in international affairs which might develop before the close of the year. The report, however, presents an analysis of the factors most likely to affect farm income in the coming year."

A particularly valuable feature of the report is the summarized conclusions published by the sub-committee with respect to each of the important cereal grains and several divisions of live stock, together with the reasons which lead up to these conclusions.

One who reads the bulletin cannot fail to be impressed with the fact that, generally speaking, the position of agriculture has shown improvement in the past year and that the factors in support of further improvement in 1936 are material, but it should be pointed out that the farmer who is carefully and intelligently studying the situation is the farmer who is in the best position to take advantage of this prospective continuing upward trend.

The pamphlet should be in the hands of every farmer in the prairie provinces and is worthy of study by all who are interested in the welfare of agriculture in the west and that means every citizen of the three provinces."

## ECONOMIC LITERATURE

**MENZIES-KITCHIN, A. W. Land Settlement. A report prepared for the Carnegie United Kingdom Trustees—Farm Economics Branch, School of Agriculture, Cambridge University.**

This rather exhaustive report has been prompted by a desire to alleviate the conditions of the unemployed in Great Britain and is so embracing as to give consideration to the many general and economic factors involved. The author recognizes that to force people back to the land merely to provide employment will necessitate a return to more primitive methods of agriculture and a reversal of the normal trend of agricultural development. He treats of production and technical progress, of population change, supply and demand, wage rates, international comparisons of consumption and of recent efforts to regulate production through marketing boards. The writer also discusses the agricultural population and employment in various countries, the value and character of the products produced, the size of holdings, and the recent changes in the size of holdings, and points out the necessity of co-operation in the operation of certain sizes of holdings. Land settlement in various European countries is reviewed and the enterprises which appear logical for small holdings are analysed. The cost of establishment of settlers and a discussion of probable income is set forth along with the probable effects of land settlement on those already established in agriculture.

Commenting on the 20–50 acre farm, the writer states that in England and on the Continent the small mixed arable holding has a marked resistance to low agricultural prices. Experience shows that the settlement should be established on a colony basis in a district away from urban influence and dependent on an internal export market. Studies during 1932 in the Eastern counties of England reveal that 52 of the more profitable of such holdings averaging about 37 acres with 23 acres arable were capitalized at £460 per holding with 36% investment in crops and tenant right, 44% in live stock, and 20% in equipment machinery. The gross income was £418 per holding and gross expenditure £350 leaving £68 for farm income. The average family income was close to £146 per holding. After deducting family labour and interest on capital at 5% the small holder received on the average £95 for his own labour compared with the income of an employed miner or farm worker of 40s. per week.

From the study the author concludes that under present conditions land settlement offers little hope of creating additional employment on equal living standards. Increased agricultural production would lead to reduced imports, a reduction of exports and a decline of industrial employment. Effective demand is essential and must be generated by reduced cost or increased purchasing power.

The writer suggests that the 3–5 acre settlement is open to serious attack on account of the necessity of the settler leaning heavily on certain intensive crops which when prices fluctuate downwards leaves the producer with few alternative enterprises and probable failure. The pig, poultry and egg enterprises on the 3–5 acre farm are dependent on world feed prices which change with little reference to product prices. Luxury type vegetables he states are over-produced in Great Britain, thus reducing the possibilities with this enterprise. The writer commends the settlement that has been taking place under the direction of county councils which has been on a conservative basis, and settlement above that volume can only be condoned on a social or political basis. If the 3–5 acre settlement is to be fostered it must be safeguarded by a plan whereby buying and selling are done co-operatively. The 30–50 acre farm is more likely to be a satisfactory unit of settlement because of the greater freedom of the farm operator to change enterprises as farm produce prices fluctuate.

The general conclusion of the study is that a large scale policy of land settlement in Great Britain cannot be justified on economic grounds and can have little effect in solving the unemployment problem. If settlement is undertaken for social or political reasons, it will require support either by dearer food prices or direct subsidies.

# The ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VI, No. 3 | Published by Authority of the Hon. James G. Gardiner
Minister of Agriculture | June, 1936

## THE ECONOMIC SITUATION

The index of wholesale prices in Canada showed a slight recession in both March and April, the index for April being 72.2 compared with 72.5 in April, 1935. Animals and their products declined from 70.5 in March to 69.8 in April. Changes in the other groups were materially less. Slight gains were indicated for wood, wood products and paper, iron and its products and chemicals and allied products. The index of Canadian farm products was one point lower in April as compared with February and half a point lower than it was in March.

***Retail Prices.***—After showing a slight advance in March, the index of retail prices dropped to 79.8 in April. Lower prices of food and fuel were the chief factors in the decline. Retail sales in March were 3.2% higher than in February and 3.5% above sales in March of last year.

***Agricultural Products.***—Prices of grain continued to fall but prices of potatoes and other field products rose and the index for March was 59.2 and that for April 59.8 which is still well above the index of 57.3 reported in April, 1935. Prices of live stock are higher than a year ago but have shown a distinct tendency toward lower levels, the index falling from 72.1 in February, 1936, to 70.5 in March and 69.8 in April comparatively heavy deliveries and weakening of prices of cattle in United States being largely responsible. Exports of cattle to the United Kingdom have been resumed on a very substantial scale. Prices of sheep and lamb have been relatively good.

***Physical Volume of Business.***—Indexes of physical volume of business in the first four months of 1936 were substantially higher than in the corresponding period of 1935 although there has been a tendency to slightly lower levels from month to month. This is also true of the index of industrial production. The index of manufacturing showed an increase in March as compared with February. Marketings of grain and live stock advanced from 62.7 to 89.5. Larger shipments of wheat, oats, and rye contributed to the increase in grain marketings and this was the chief cause of the rise in the index. The figures for April have been added since the foregoing was written.

***Prices in United Kingdom.***—The index numbers of prices of agricultural produce (1911–13 = 100) was 118 in February compared with 119 in January. This index does not take into consideration payments under the Wheat Act of 1932 and the Cattle Industry Act, 1934. Prices of bacon, pigs, eggs and cheese advanced. Store pigs, fat sheep, dairy cows, store cattle, barley and oats were lower. If the payments under the two Acts referred to previously are taken into consideration, the index would have been 123 in February compared with 125 in January.

***Prices in United States.***—Prices of beef cattle in the United States averaged $6.27 per hundredweight in April of this year compared with $6.71 in April, 1935. Hogs averaged $9.38 per hundred pounds as against $7.88 in April of last year. Prices

## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.6 | 106.2 | 108.8 | 34.0 | 133.4 |
| 1936 | | | | | | | | | |
| Jan. | 72.9 | 65.9 | 59.0 | 77.5 | 80.7 | 105.2 | 107.0 | 39.8 | 143.4 |
| Feb. | 72.5 | 66.0 | 58.9 | 77.8 | 80.4 | 104.9 | 104.9 | 62.7 | 150.3 |
| Mar. | 72.4 | 65.5 | 59.2 | 76.0 | 80.5 | 103.3 | 104.1 | 89.5 | 149.5 |
| Apr. | 72.2 | 65.0 | 59.8 | 73.8 | 79.8 | 108.8 | 109.2 | 115.8 | 149.3 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p. 52, and Monthly Mimeographs 1934 and 1935.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100. Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

of butter averaged 28.3 cents per pound in April this year compared with 29.8 cents in April, 1935. Potatoes were 81.1 cents per bushel as against 49.1 cents in April of last year. Chickens averaged 16.9 cents per pound compared with 15.5 cents last year.

## SOME FACTS CONCERNING MILK CONSUMPTION IN CANADA[1]

G. P. Boucher[2]

An analysis of records obtained from 3,213 families in various urban and rural areas during a survey conducted in the summer of 1935 shows a per capita consumption of milk of about .74 pints per day. The survey was undertaken by the Economics Branch and the Dairy Branch of the Dominion Department of Agriculture in co-operation with the Quebec and Alberta Departments of Agriculture. It dealt with the consumption of milk and cheese in relation to locality, income, national type, occupation and various other factors.[3]

The areas visited were the City of Quebec in the Province of Quebec, the City of Oshawa in the Province of Ontario, the City of Calgary in the Province of Alberta and some villages and farm communities in each of these provinces. The data obtained are considered to be fairly representative of cheese and milk consumption in the three provinces mentioned and it is hoped that they also give a fairly accurate picture of conditions in Canada as a whole.

This article is designed to give only some of the results concerning milk consumption. Table 1 shows the daily per capita consumption of milk and the amount used as a beverage in various localities. Of the three cities, Quebec City shows a somewhat lower per capita consumption with a higher proportion of milk being utilized as a beverage, which may be partly explained by the fact that families are very much larger in that city.

Table 1.—Daily per capita consumption of milk and amount used as a beverage in various localities of Canada, 1935

| Locality | Number of families | Number of persons | Per capita consumption per day | | |
|---|---|---|---|---|---|
| | | | Total consumption | Used as a beverage | Proportion used as a beverage |
| | | | (pints) | (pints) | % |
| *Cities* | | | | | |
| Oshawa | 816 | 3,365 | 0.71 | 0.37 | 52 |
| Quebec City | 790 | 4,686 | 0.68 | 0.50 | 73 |
| Calgary | 996 | 3,995 | 0.74 | 0.44 | 59 |
| Totals or averages for cities | 2,602 | 12,046 | 0.71 | 0.44 | 62 |
| *Villages* | | | | | |
| Uxbridge | 102 | 345 | 0.73 | 0.34 | 47 |
| St. Romuald | 48 | 287 | 0.40 | 0.22 | 54 |
| Claresholm | 101 | 432 | 0.70 | 0.39 | 56 |
| Totals or averages for villages | 251 | 1,064 | 0.63 | 0.33 | 52 |
| *Farm Areas* | | | | | |
| Ontario rural cheese producing area | 50 | 222 | 0.96 | 0.47 | 49 |
| Ontario rural non-cheese-producing area | 52 | 236 | 0.85 | 0.30 | 35 |
| Quebec rural cheese producing area | 49 | 361 | 1.20 | 1.01 | 84 |
| Quebec rural non-cheese-producing area | 108 | 772 | 0.74 | 0.55 | 75 |
| Alberta rural area | 101 | 407 | 1.40 | 0.81 | 58 |
| Totals or averages for farm areas | 360 | 1,998 | 1.00 | 0.65 | 65 |
| Grand totals and averages | 3,213 | 15,108 | 0.74 | 0.46 | 62 |

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[1] Preliminary statement subject to revision and correction.

[2] Field Assistant Economics Branch Department of Agriculture, Ottawa.

[3] The author gratefully acknowledges the assistance of Miss B. Shuart in the statistical analysis of the data.

Of the three villages, Saint Romuald, in the Province of Quebec, also shows a much lower per capita consumption of milk, while the proportion which is utilized as a beverage is not much different from the average for the three villages. It will be noted that although only about half as many families were interviewed in Saint Romuald as in other villages, it is believed the figures are representative of conditions in that village.

The farm areas in Quebec and Ontario have been divided into cheese-producing and non-cheese-producing areas. The cheese-producing area of Quebec includes the two parishes of St. Pierre and Ste. Famille on the Island of Orleans and the non-cheese-producing area is the Parish of Ancienne-Lorette. In Ontario, the Belleville farm area has been chosen as the cheese-producing area and Columbus and the Oshawa farm area as the non-cheese-producing area. No such division has been made in Alberta.

TABLE 2.—DAILY PER CAPITA CONSUMPTION OF MILK AND AMOUNT USED AS A BEVERAGE AS RELATED TO FAMILY INCOME, 3,213 FAMILIES IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA, 1935

| Family income | Number of families | Number of persons | Per capita consumption per day | | |
|---|---|---|---|---|---|
| | | | Total consumption | Used as beverage | Proportion used as beverage |
| | | | (pints) | (pints) | % |
| On Relief | 189 | 921 | 0.54 | 0.31 | 57 |
| Under $1,000 | 1,263 | 5,868 | 0.69 | 0.43 | 62 |
| $1,000–$2,000 | 1,060 | 4,978 | 0.76 | 0.47 | 62 |
| $2,000–$4,000 | 544 | 2,486 | 0.81 | 0.50 | 62 |
| $4,000 and over | 151 | 826 | 0.95 | 0.63 | 67 |
| Not stated | 6 | 29 | 0.97 | 0.55 | 57 |

There was a definitely higher consumption of milk and higher utilization of milk as a beverage in the rural cheese-producing areas. The average consumption of milk was higher in the farm households and in city homes than in village homes. For the 3,213 families studied, the per capita consumption of milk per day was .74 pints and the utilization of milk as a beverage, .46 pints. The amount used as a beverage represented 62% of all the milk consumed.

TABLE 3.—DAILY PER CAPITA CONSUMPTION OF MILK AND AMOUNT USED AS A BEVERAGE AS RELATED TO NATIONAL TYPES, 3,213 FAMILIES IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA, 1935

| National types | Number of families | Number of persons | Per capita consumption per day | | |
|---|---|---|---|---|---|
| | | | Total consumption | Used as a beverage | Proportion used as a beverage |
| | | | (pints) | (pints) | % |
| Canadian | 1,153 | 4,609 | 0.79 | 0.44 | 56 |
| French Canadian | 967 | 5,957 | 0.70 | 0.51 | 73 |
| English and Welsh | 482 | 1,832 | 0.77 | 0.41 | 54 |
| Irish and Scotch | 289 | 1,205 | 0.77 | 0.44 | 57 |
| American | 69 | 298 | 0.85 | 0.49 | 58 |
| Ukrainian | 84 | 403 | 0.77 | 0.45 | 59 |
| Jewish | 27 | 122 | 0.57 | 0.31 | 54 |
| German | 23 | 132 | 0.66 | 0.29 | 43 |
| Others | 116 | 542 | 0.61 | 0.36 | 59 |
| Not stated | 3 | 8 | 0.65 | 0.33 | 50 |

There is a very direct relationship between consumption of milk and family income (Table 2). The proportion of milk used as a beverage is exactly the same for families with incomes varying from less than $1,000 to $4,000, somewhat lower for families on relief and proportionately higher for families with incomes of over $4,000.

TABLE 4.—DAILY PER CAPITA CONSUMPTION OF MILK AND AMOUNT USED AS A BEVERAGE AS RELATED TO OCCUPATION, 3,213 FAMILIES IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA, 1935

| Occupation group | Number of families | Number of persons | Per capita consumption per day | | |
|---|---|---|---|---|---|
| | | | Total consumption | Used as a beverage | Proportion used as a beverage |
| | | | (pints) | (pints) | % |
| Professional | 315 | 1,492 | 0.82 | 0.55 | 67 |
| Large business executive | 268 | 1,214 | 0.82 | 0.50 | 61 |
| Small business executive | 157 | 747 | 0.75 | 0.48 | 64 |
| Salesman | 191 | 936 | 0.74 | 0.49 | 66 |
| Clerical work | 308 | 1,397 | 0.75 | 0.49 | 65 |
| Skilled labour | 855 | 4,127 | 0.68 | 0.41 | 61 |
| Unskilled labour | 484 | 2,321 | 0.57 | 0.33 | 58 |
| Farmer | 333 | 1,751 | 1.04 | 0.67 | 64 |
| Retired | 168 | 500 | 0.70 | 0.29 | 42 |
| Not stated | 134 | 623 | 0.59 | 0.35 | 59 |

Table 3 shows the relation between consumption and national types. This classification by national types is a rather broad one. The term "Canadian," for instance, may and does include a number of families that might well have been listed as English, Welsh, Scotch or Irish, and vice versa. However, the striking similarity between the amounts of milk consumed by each of these national types suggests that all people of British origin might have been grouped together. The French-Canadian group, which is mostly from the Quebec area, shows the highest proportion of milk used as a beverage.

A study of the relation between milk consumption and occupation shows the farmer group coming first with a daily per capita consumption of 1.04 pints (Table 4). There is a very noticeable similarity between the milk consumption habits of the small business executive, salesmen and clerical groups. The consumption of milk by labourers is the lowest with the unskilled labour group showing a daily consumption of only .57 pints.

**ANTIGONISH COUNTY, NOVA SCOTIA. A Study of Land Utilization, Farm Production and Rural Living; W. V. Longley and W. F. Chown. Bulletin No. 118, Nova Scotia Department of Agriculture.**

Antigonish County, in Eastern Nova Scotia, has experienced a greater decrease of rural population than any other of the 34 counties in Eastern Canada that reached their maximum in the census year 1881. The burden of maintaining schools and other municipal services is a heavy one to be borne by the present population. This has been increased latterly by the low prices received for primary products and by the lack of opportunity for the youth of the county to find remunerative employment in other parts of Canada and the United States.

The Antigonish County bulletin presents the results of a study of the causes leading to the present situation, a survey of economic and social conditions at the present time and an examination of the possibilities of increasing farm and county revenues and curtailing municipal expenditures by a program based on the better utilization of land for agricultural and forest production.

## A STUDY OF 126 ABANDONED FARMS IN THE LOMOND AREA OF SOUTHERN ALBERTA[1]

W. N. WATSON[2]

The chief agricultural problems of the abandoned farm area of Southern Alberta are those which are characteristic of land abandonment throughout Western Canada's dry lands. The population on the drier areas of the West has been a non-permanent one since the very beginning of settlement. When these lands were opened up for settlement occupation was very rapid. Little was known of the nature of the soil, climate, insect pests, and other factors which would vitally affect the agricultural development of the district. The first settlers had to develop dry farming methods by trial and error. Early failures on the poorer farms therefore were inevitable. Unfortunately successive operators took up the abandoned farms largely through lack of knowledge of the problems which faced them. The costs involved in such settlement have been prodigious and cannot be measured in dollars and cents only, because much human privation followed failure on these farms.

***Geographic Setting.***—In 1863 Palliser in his report to the British Government on the resources of Western Canada described a triangular area (later known as Palliser's Triangle) having its base on the International Boundary lying between longitude 102 degrees W. (Turtle Mountain, Manitoba) and 114 degrees W. (Cardston, Alberta), and its apex on latitude 52 degrees N. (Saskatoon, Saskatchewan). He said that within this area successful farming would be impossible. The Lomond area lies near the south-western corner of Palliser's triangle. It includes that area which has for its boundaries the Little Bow River and Lake McGregor on the West, the Bow River on the East, Township 17 on the North, and the Old Man River on the South, excluding the irrigated area in the South-eastern corner. It includes the district adjoining the villages of Lomond, Travers, Enchant and Retlaw. During July and August, 1935, information was collected on 126 abandoned farms in the Lomond area as a part of the Land Utilization Survey of the Vulcan-Lomond area of Southern Alberta. This study was conducted by the Economics Branch of the Dominion Department of Agriculture in co-operation with the University of Alberta and the Alberta Provincial Department of Agriculture. It is a part of the program being carried out under the Prairie Farm Rehabilitation Act of 1935 and most of the funds were supplied under the provisions of this Act. A detailed description of the area, the climate, soils, people, history, etc., will be included in the major report of the Land Utilization project, and is, therefore, not presented here. It was impossible to get details of all the abandoned land in the area. However, the 126 abandoned farms concerning which information was obtained offer a cross-section of abandonment, and enable one to form a reasonably accurate picture of the nature of the abandonment which has taken place in the area.

***Dates of Settlement.***—The Lomond area was thrown open to homesteaders by the Dominion Government in 1906. Previous to that time the land was used by

TABLE 1.—DISTRIBUTION OF 126 ABANDONED FARMS IN THE LOMOND AREA OF ALBERTA ACCORDING TO YEARS IN WHICH LAND WAS FIRST FARMED

| — | 1906–1910 | 1911–1915 | 1916–1920 | 1921–1925 | 1926–1930 | 1931–1935 | Known | Not known |
|---|---|---|---|---|---|---|---|---|
| Number of farms | 62 | 9 | 7 | 6 | 1 | 5 | 90 | 36 |
| Percentage | 69 | 10 | 8 | 7 | 1 | 5 | 100 | |
| Cumulative percentage | 69 | 79 | 87 | 94 | 95 | 100 | 100 | |

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[1] These data were obtained in a study of land utilization in South Central Alberta begun in 1935. Preliminary statement, subject to revision and correction.

[2] Agricultural Assistant, Economics Branch, Department of Agriculture, Ottawa, Canada.

ranchers only. A complete history of 90 farms was secured, and of these 69% were first farmed before 1910 and 79% were first farmed before 1915; 87% of the farms were first farmed twenty years or more ago. The average number of years since the date of settlement was 23.08. Only 6% of the farms were brought under cultivation within the last ten years. The more recently acquired virgin land was obtained from the various land companies. Thus the wave of settlement was well under way before the opening of the Great War and the period of high prices for agricultural products. The rapidity with which the area was settled was the result of the Dominion Government's open immigration policy, free land, and the fact that most of the better lands of the West had been homesteaded. "The last best west" was the cry. It is important to note, however, that in spite of evidence of unsuccessful settlement, some individuals continued to file on the land throughout the whole period since 1906.

TABLE 2.—METHOD OF ACQUISITION BY FIRST OPERATOR, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| — | Homestead and pre-emption | Purchased from | | | | Known | Not known | Total |
|---|---|---|---|---|---|---|---|---|
| | | Can. Pacific Railway | Hudson's Bay Co. | Government | Canada Land Co. | | | |
| Number of farms | 102 | 3 | 6 | 4 | 1 | 116 | 10 | 126 |
| Percentage | 88 | 3 | 5 | 3 | 1 | 100 | | |
| Cumulative percentage | 88 | 91 | 96 | 99 | 100 | 100 | | |

The years 1903 to 1910 were considerably drier than average, and it may be wondered why, in spite of this, settlement was so active. However most of the homesteads were taken up after 1908, and hence little land was seeded to crops until 1911. Low yields, therefore, were not in evidence to discourage settlement. In 1911, ample moisture fell, and much better than average rainfall continued until 1917.

***Method of Acquisition by First Operator.***—The land open to homestead and pre-emption was almost entirely filed upon by 1911 except for a few cancellations. The remaining farms were obtained by purchase from the Canadian Pacific Railway Company, the Hudson's Bay Company, the Dominion Government (School Lands), and the Canada Land and Irrigation Company. Table 2 shows that 88% of the abandoned farms were homesteads and pre-emptions.

***Years Farmed.***—Twenty-four per cent of the holdings were farmed less than five years, and 40% less than ten years. Only one of the farms had been in operation continuously up to 1934.

TABLE 3.—NUMBER OF YEARS FARMS HAVE BEEN OPERATED, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| — | 1–5 | 6–10 | 11–15 | 16–20 | 21–25 | 26–30 | 31–35 | Known | Not known | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 16 | 11 | 15 | 10 | 14 | 1 | 1 | 68 | 58 | 126 |
| Percentage | 24 | 16 | 23 | 14 | 21 | 1 | 1 | 100 | | |
| Cumulative percentage | 24 | 40 | 63 | 77 | 98 | 99 | 100 | 100 | | |

Twenty-eight per cent of the farms had only one operator (Table 4). Some of these men were speculative homesteaders who took poor land by mistake, failed in their efforts at farming and moved off. A few of them did not remain long enough

TABLE 4.—NUMBER OF OPERATORS ON EACH FARM, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| No. of operators | 1 | 2 | 3 | 4 | 5 | 6 | Known | Not known | Total |
|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 26 | 38 | 25 | 3 | 2 | 1 | 95 | 31 | 126 |
| Percentage | 28 | 40 | 26 | 3 | 2 | 1 | 100 | | |
| Cumulative percentage | 28 | 68 | 94 | 97 | 99 | 100 | 100 | | |

to complete the Government's requirements before title to the property was granted. Thirty-two per cent of the farms had three or more operators. These were probably operated in a haphazard manner. They were cultivated for a few years on the get-rich-quick plan, abandoned, rented or sold when conditions looked more favorable, and the cycle was repeated several times.

Of those who operated the farms last, 59% operated them five years or less (Table 5). More than one-quarter of them were operated for one year only. However, the fact that 11% were operated sixteen years or more is highly significant. There are factors which do make it possible for certain farmers to carry on for long periods of time under the most adverse conditions.

TABLE 5.—NUMBER OF YEARS FARMS WERE OPERATED BY LAST OPERATOR, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| Years | 1 | 2 | 3 | 4 | 5 | 6–10 | 11–15 | 16 and over | Known | Not known | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 22 | 15 | 7 | 3 | 3 | 16 | 9 | 10 | 85 | 41 | 126 |
| Percentage | 27 | 18 | 8 | 3 | 3 | 20 | 10 | 11 | 100 | | |
| Cumulative percentage | 27 | 45 | 53 | 56 | 59 | 79 | 89 | 100 | 100 | | |

Homesteaders formed 27% of the last operators; 34% were renters; 38%were purchasers. Homesteaders were those who remained on the farm longest; purchasers next longest, and renters remained for the shortest period. A comparison of Table 1 with Table 6 shows the very large increase in the number of renters.

TABLE 6.—METHOD OF ACQUISITION OF FARM BY LAST OPERATOR, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| — | Homestead pre-emption | Rented | Purchased | Legacy | Known | Not known | Total |
|---|---|---|---|---|---|---|---|
| Number of farms | 25 | 32 | 36 | 1 | 94 | 32 | 126 |
| Percentage | 27 | 34 | 38 | 1 | 100 | | |
| Cumulative percentage | 27 | 61 | 99 | 100 | 100 | | |

Most of the farms were fairly well supplied with school facilities (Table 7). Even today, when several schools have been closed and several others re-located in Lomond, Retlaw, and Enchant under a consolidation of schools, 71% of the farms are only three miles or less from a school. Just one farm was more than seven miles from a school. Remoteness from a school was not a major reason for abandonment, although the relatively great distance between neighbors was no doubt a factor in the movement.

Table 7.—Miles from school, 126 abandoned farms, Lomond area of Alberta

| Miles | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Over 7 | Total |
|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 21 | 39 | 30 | 11 | 15 | 5 | 4 | 1 | 126 |
| Percentage | 16 | 31 | 24 | 9 | 12 | 4 | 3 | 1 | 100 |
| Cumulative percentage | 16 | 47 | 71 | 80 | 92 | 96 | 99 | 100 | 100 |

It is frequently maintained that farms more than ten miles from a shipping point are under a serious handicap in economic production. Economic production for the farmer includes hauling. Farms which are devoted chiefly to wheat growing can be successful and still be more distant from a shipping point than in the case of some other types of agriculture. However, three-quarters of the abandoned farms (Table 8) lie within the ten mile limit. The roads are reasonably good throughout the year. Most of these farms are therefore not handicapped by great distance from shipping points.

Table 8.—Miles from shipping point, 126 abandoned farms, Lomond area of Alberta

| Miles | 0–2 | 3–4 | 5–6 | 7–8 | 9–10 | 11–12 | 13–14 | Over 14 | Total |
|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 9 | 28 | 21 | 19 | 16 | 12 | 8 | 13 | 126 |
| Percentage | 7 | 22 | 17 | 15 | 13 | 10 | 6 | 10 | 100 |
| Cumulative percentage | 7 | 29 | 46 | 61 | 74 | 84 | 90 | 100 | 100 |

***Soils.***—A greater proportion of abandonment has occurred on the sands (fine sand and fine sandy loam) than on the loams. Thirty per cent of the farms abandoned were on the sands, though they comprise only about 20% of the total area (three townships in a total area of fifteen townships). Forty-three per cent of the farms were on clay loams. These clay loams are quite inferior to those farther west of the area abandoned. The nitrogen content is low, many stones are present, and the subsoil forms an impervious hardpan in the normally dry years. Ten per cent of the farms had a sufficient number of stones to cause serious difficulty in cultivation.

Table 9.—Present ownership of land, 126 abandoned farms, Lomond area of Alberta

| — | Private | Municipal | Prov. Govt. | C.P.R. | H.B. Co. | Bank | Mtge. Co's | Other Co's | Soldiers Settlement Board | Known | Not known | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of farms | 31 | 4 | 45 | 3 | 5 | 2 | 22 | 1 | 2 | 115 | 11 | 126 |
| Percentage | 27 | 3 | 40 | 2 | 4 | 2 | 19 | 1 | 2 | 100 | | |
| Cumulative percentage | 27 | 30 | 70 | 72 | 76 | 78 | 97 | 98 | 100 | 100 | | |

Forty per cent of the abandoned farms now belong to the Provincial Government (Table 9). Individuals own 27%, municipalities 3%, and the remaining 30% belong to private companies. The number of farms reverting to the Provincial Government and the municipalities for taxes has risen steadily with the greatest numbers of reversions occurring within the last five years. The large number of farms reverting to the Provincial Government rather than to municipalities is because most of the 126 farms of this study lie in improvement districts under the direct control of the Province of Alberta. Most of the land owned by the private companies was once homesteaded and has been taken over for mortgage indebtedness. The decrease from 88% private ownership at the time of settlement to only 27% now is significant of the amount of insolvency prevailing among the ex-operators.

TABLE 10—ANNUAL AND AVERAGE PRECIPITATION LOMOND AREA OF ALBERTA

| Year | Medicine Hat[1] | Expanse Coulee[2] | Lethbridge[1] |
|---|---|---|---|
| 1921 | 12.83 | 13.51 | 12.77 |
| 1922 | 11.54 | 12.32 | 12.34 |
| 1923 | 13.64 | 15.50 | 16.40 |
| 1924 | 9.86 | 9.55 | 16.00 |
| 1925 | 14.61 | 11.29 | 18.76 |
| 1926 | 11.90 | 10.58 | 16.23 |
| 1927 | 25.28 | 23.89 | 23.85 |
| 1928 | 7.64 | 6.77 | 18.08 |
| 1929 | 10.46 | 9.83 | 19.71 |
| 1930 | 12.73 | 12.51 | 12.34 |
| 1931 | 6.38 | 7.54 | 11.42 |
| Total | 136.87 | 133.29 | 177.90 |
| Average 11 years (1921–1931) | 12.4 | 12.1 | 16.2 |
| Average 51 years | 13.2 | Average 33 years | 16.0 |
| Average 1929-1934 | 12.2 | | 16.2 |

[1] Soil Drifting Control in Prairie Provinces (1935), p. 39.
[2] Meteorological Service of Canada.

***Present Condition of Farms.***—Forty-five dwellings were left on these farms, only 21 of which were worthy of the name of house. Those which had disappeared, mostly shacks, were largely in use on other farms and in Lomond, Enchant and Retlaw as granaries, sheds and dwellings. Only three windbreaks were present, indicating that almost no attempt had ever been made to make a permanent home on these farms. Fifty-eight had fences, most of which were badly dilapidated. Indications were present that there had been other fences but that they had been moved elsewhere. Only 27 had a water supply, which in general was poor, both as to quality and quantity, and was without doubt an important cause of abandonment.

***Reasons for Abandonment.***—A great variety of reasons was given for abandonment, with drought and soil drifting accounting for 59%. Poor soil and stony land accounted for 8% of the reasons, and grasshoppers and cutworms 2%. Over two-thirds of the abandonments, therefore, were due to the purely physical nature of the farm and its environment. Of the remaining third, 8% were personal in nature: family difficulties, poor health, and death. Four per cent were due to foreclosures and 4% to inability to pay for the farm, and quit claims were given.

In the decade 1910 to 1920, 16% of the farms were abandoned in spite of the high prices for farm products then prevailing and the fact that the farmers were tilling virgin soil. A number of these were proved up and left before the war. Some of the land filed upon was found to be too poor to warrant proving up and reverted to the Government after a year or two of discouragement. The good crops of 1915 and 1916 checked abandonment temporarily. The drier-than-average years, 1917 to 1922, coupled with the break in farm prices forced a 22% abandonment of the farms in the five-year period 1921 to 1925, most of these occurring in 1921 and 1922.

*Precipitation.*—The rainfall of Medicine Hat corresponds more closely with that of the Lomond area than that of any other point where records have been kept for a long enough period to make comparisons of dry years in the Lomond area. Dry years in Western Canada run in irregular cycles. Some groups of dry years at Medicine Hat have been: 1885 to 1890, average rainfall 9.7 inches; 1903 to 1910, 9.8 inches; 1917 to 1922, 11.1 inches. The 51 year average rainfall at Medicine Hat is 13.2 inches. The average for the Lomond area can be computed only from the 11 year records (1921–1931) at Expanse Coulee, during which period it was 12.1 inches. Medicine Hat's average for the same period was 12.4 inches.

TABLE 11.—DATES OF ABANDONMENT, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| — | 1910–1920 | 1921–1925 | 1926–1930 | 1931–1935 | Known | Not known | Total |
|---|---|---|---|---|---|---|---|
| Number of farms | 18 | 23 | 18 | 50 | 109 | 17 | 126 |
| Percentage | 16 | 22 | 16 | 46 | 100 | | |
| Cumulative percentage | 16 | 38 | 54 | 100 | 100 | | |

Table 11 shows that 46% of the abandonments have occurred within the last five years. The average number of years since abandonment was 7.6. The reason most frequently given for this is that an abnormal period of drought has obtained in the district since 1928. Rainfall records of a satisfactory nature have not been kept in the area. However, at Lethbridge (only 50 miles away) the average rainfall for the years 1929 to 1934, 16.2 inches, was actually slightly higher than the 33 year average of 16.0 inches. At Medicine Hat the corresponding average for 1929 to 1934 was 12.2 inches; the 51 year average, 13.2 inches. Table 10 shows an exceptionally close rainfall correlation between Medicine Hat and Expanse Coulee for the 11 year period 1921 to 1931. Rainfall records kept by two farmers on the fringe of the Lomond area indicate a similar correlation during the years 1932 to 1934. Exceptional drought, therefore, would not appear to be the chief reason for abandonment, but rather the inability to make farming pay in a normally dry climate. As long as wheat was being grown on virgin soil obtained for homestead fees only, under conditions of better than average rainfall and sold at high prices, farmers were in most cases successful. Unfortunately grasshoppers, cutworms, weeds, and the loss of soil fibre in addition to the return of dry and normal years are now major factors in reduced yields.

### *Significance of Size of Farm*

During the settlement period the quarter-section (160 acres) was the predominant size of farm. A few homesteaders acquired an additional quarter-section by preemption. The operators remaining gradually obtained other farms as the unsuccessful moved out. However, the fact that the remaining operators were ultimately unsuccessful may explain why the farms were little larger at the time of abandonment than they were originally.

TABLE 12.—SIZE OF FARMS BY QUARTERS, 126 ABANDONED FARMS, LOMOND AREA OF ALBERTA

| No. of quarter-sections | 1 | 2 | 3 | 4 | Total |
|---|---|---|---|---|---|
| Number of farms | 68 | 37 | 7 | 14 | 126 |
| Percentage | 54 | 29 | 6 | 11 | 100 |
| Cumulative percentage | 54 | 83 | 89 | 100 | 100 |

In an area of scanty rainfall, successful farms are usually larger than those operated in more humid areas. The average size of farm in Alberta in 1931 was 400 acres; the average size of the Lomond abandoned farms was only 273 acres. Fifty-four per cent of the farms when abandoned were only quarter-sections (160 acres). Only 11% were as large as a section (640 acres) and none was greater. It would appear that one of the contributing causes for abandonment was that these farms were not of optimum size.

***Present Occupation.***—It is interesting to note that 72% of the 126 operators are still farming elsewhere, while only 15% are engaged in occupations other than farming. The remainder are either retired, unemployed, or deceased. The fact that nearly three-quarters of the former operators are farming elsewhere is indicative that under present conditions they are better able to adjust themselves to farming than to any other vocation. It implies also that the soil, climate, and other physical deficiencies of the Lomond area were the real causes of abandonment.

***Recurrence of Settlement.***—Few if any of the abandoned farms of the Lomond area are in the long run capable of supporting wheat growing as a major enterprise. However, because wheat-growing has been successful in exceptional years, other operators will again be attracted to these farms when a combination of unusually favorable circumstances occurs. Some permanent policy of management of these abandoned lands would seem advisable.

## ECONOMIC ASPECTS OF APPLE PRODUCTION IN ROUVILLE COUNTY, QUEBEC

A. GOSSELIN[1]

The purpose of this article is to present a summary of the results obtained in a study[2] of the financial returns and the cost of producing apples on 30 orchard farms of the Rouville County, the oldest district of the province of Quebec where apple production is the major farm enterprise. This area is located some 35 miles from the City of Montreal and includes the three parishes of St-Hilaire, Rougemont and Abbotsford. The data contained in the first part of this study were collected in a farm survey conducted for six consecutive years and apply to the crop years 1929 to 1934 inclusive, while the data summarized in the second part were collected through an enterprise cost study carried on during the three years 1932, 1933 and 1934 in order to secure more specific information on the cost of producing and marketing apples in that district.

This study coincides with the economic depression experienced since 1929 and shows the trend followed by this type of business during the past six years. While the financial returns of these farms varied somewhat from year to year according to the size of the apple crop and decreased gradually with falling prices, it must be pointed out that the very low financial returns of these farms in 1934 are due more particularly to the heavy loss of apple trees which were killed or injured by the severe winter conditions of 1933–34.

The farms selected for this study are well representative of this type of farming in the district although they vary in size from 15 to 230 acres. The average size of these farms was 70.6 acres, of which 16.7 acres were in bearing orchard, 8.1 acres in non-bearing orchard, and 14.0 acres in other crops. The balance of the acreage was in pasture, wood and rough land. The bearing orchards range in size from 5 to 50 acres.

***Financial Returns.***—The financial summary of these farms is presented in Table 1. For the six-year period gross receipts averaged $3,138 per farm. Receipts from apple sales averaged $2,718 or 86.6% of total receipts. The highest receipts were obtained in 1930 and averaged $3,849 per farm. The lowest receipts were secured in 1934 and averaged $1,942 per farm. Total expenses including inventory decrease averaged $2,106 per farm for the six-year period. The item "other expenses" includes all expenses not otherwise listed such as seed, feed, trees, apple containers, marketing expenses, and miscellaneous expenses.

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[1] Economist, Agricultural Economics Branch, Ottawa.

[2] This study was conducted by the Economics Branch of the Dominion Department of Agriculture in co-operation with the Rural Economic Service of the Quebec Department of Agriculture.

The farm income is the amount remaining from the year's gross receipts after total farm expenses including an allowance for unpaid family labour and depreciation on buildings and equipment have been deducted. It is what is left to cover wages for the operator's labour for the year and interest on the capital invested in the farm. The average farm income for the six-year period was $1,032 reaching the peak in 1930 with $1,412 and the lowest point in 1934 with $701.

The labour income is computed by deducting from the farm income interest on the total farm investment (calculated at 5% in this survey) and represents the return to the operator for his labour and management—in addition he receives food, fuel and housing derived from the farm. For the six-year period the operator's labour income averaged $102. The average value of farm perquisites and use of dwellings was estimated at $441.

TABLE 1.—FINANCIAL SUMMARY OF 30 ORCHARD FARMS IN ROUVILLE COUNTY, QUEBEC, 1929–1934

| Crop year | 1929–1930 | 1930–1931 | 1931–1932 | 1932–1933 | 1933–1934 | 1934–1935 | Six-year average 1929–1934 |
|---|---|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ | $ | $ |
| *Capital* | | | | | | | |
| Land | 11,348 | 11,348 | 11,348 | 11,690 | 11,690 | 11,690 | 11,519 |
| Buildings | 5,323 | 5,170 | 5,030 | 4,940 | 4,797 | 4,675 | 4,989 |
| Machinery | 1,607 | 1,510 | 1,429 | 1,484 | 1,402 | 1,282 | 1,453 |
| Live stock | 668 | 634 | 541 | 452 | 426 | 418 | 523 |
| Feed and supplies | 71 | 94 | 130 | 122 | 124 | 100 | 107 |
| Total Capital | 19,017 | 18,756 | 18,478 | 18,688 | 18,439 | 18,165 | 18,591 |
| *Receipts* | | | | | | | |
| Apples | 2,899 | 3,282 | 3,053 | 2,995 | 2,394 | 1,685 | 2,718 |
| Other crops | 165 | 123 | 44 | 59 | 39 | 42 | 79 |
| Livestock sales | 161 | 94 | 52 | 35 | 14 | 47 | 67 |
| Livestock products | 187 | 135 | 101 | 72 | 75 | 72 | 107 |
| Other receipts | 211 | 115 | 116 | 24 | 50 | 67 | 97 |
| Inventory increase | 79 | 100 | 92 | 90 | 29 | 29 | 70 |
| Total Receipts | 3,702 | 3,849 | 3,458 | 3,275 | 2,601 | 1,942 | 3,138 |
| *Expenses* | | | | | | | |
| Unpaid labour | 318 | 387 | 304 | 136 | 153 | 117 | 236 |
| Hired labour | 600 | 561 | 501 | 560 | 507 | 411 | 523 |
| Spray material | 69 | 82 | 85 | 117 | 112 | 90 | 92 |
| Fertilizer | 115 | 158 | 141 | 104 | 68 | 84 | 112 |
| Taxes | 110 | 99 | 98 | 102 | 93 | 95 | 99 |
| Capital expenditures | 85 | 153 | 104 | 97 | 43 | 41 | 87 |
| Other expenses | 726 | 635 | 541 | 914 | 547 | 400 | 627 |
| Inventory decrease | 309 | 362 | 384 | 317 | 294 | 312 | 330 |
| Total Expenses | 2,332 | 2,437 | 2,158 | 2,347 | 1,817 | 1,550 | 2,106 |
| Farm income | 1,370 | 1,412 | 1,300 | 928 | 784 | 392 | 1,032 |
| Interest at 5 per cent | 951 | 938 | 924 | 936 | 923 | 910 | 930 |
| Labour income | 419 | 474 | 376 | −8 | −139 | —518 | 102 |

***Cash Income.***—The cash income often amounts to considerably more than the farm income computed in the usual way, because all non-cash expenses such as depreciation, decrease in inventory, unpaid family labour are not deducted from cash receipts. The remaining amount represents the actual cash the farmer has left to use for family living, for the payment of interest on borrowed capital and for making equipment replacement, and for building and farm improvements as needed. This is the measure of efficiency commonly used by the farmer, but since all farmers are not placed on the same basis in regard to unpaid family labour, it makes comparisons among individual farms somewhat difficult. It explains, however, how farmers can carry on through such a depression without being bankrupt. The cash income of these farmers averaged $1,528 for the six-year period and the estimated value of the products supplied by the farm amounted to $170, while the rental value of the house they live in was estimated at $271 making a total amount of $1,969 for what might be called total family income.

TABLE 2.—CASH INCOME OF 30 ORCHARD FARMS IN ROUVILLE COUNTY, QUEBEC, 1929–1934

| — | 1929 | 1930 | 1931 | 1932 | 1933 | 1934 | Six-year average |
|---|---|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ | $ | $ |
| *Cash Receipts* | | | | | | | |
| Apples | 2,899 | 3,282 | 3,053 | 2,995 | 2,394 | 1,685 | 2,718 |
| Other receipts | 724 | 467 | 313 | 190 | 178 | 228 | 350 |
| Total | 3,623 | 3,749 | 3,366 | 3,185 | 2,572 | 1,913 | 3,068 |
| *Cash Expenses* | | | | | | | |
| Hired labour | 600 | 561 | 501 | 550 | 507 | 411 | 523 |
| Spray material | 69 | 82 | 85 | 117 | 112 | 90 | 92 |
| Fertilizer | 115 | 158 | 141 | 104 | 68 | 84 | 112 |
| Taxes | 110 | 99 | 98 | 102 | 93 | 95 | 99 |
| Capital expenditures | 85 | 153 | 104 | 97 | 43 | 41 | 87 |
| Other expenses | 726 | 635 | 541 | 914 | 547 | 400 | 627 |
| Total | 1,705 | 1,688 | 1,470 | 1,884 | 1,370 | 1,121 | 1,540 |
| Cash income | 1,918 | 2,061 | 1,896 | 1,301 | 1,202 | 792 | 1,528 |

***Cost of Producing Apples.***—The accurate determination of the cost of production of apples, as of any farm product which is produced in combination with other farm enterprises, is very difficult. There are numerous joint costs which have to be allocated by somewhat arbitrary methods; for instance, man and horse labour, use of machinery and buildings, overhead costs, etc. Man labour is one of the most important single items of cost of producing apples and also the most difficult to allocate. The orchard business provides work for about eight months of the year and the operator has to stay on the farm the whole year whether he has some work to do or not. It is obvious that on a small orchard of between five and ten acres the operator's labour estimated at what it would cost to hire a man for the year to take his place makes the labour charge per hour of productive work much higher than the current rate for hired labour. Nevertheless the orchard business being the major farm enterprise must bear the largest share of this charge.

The same thing applies to horse labour. On most orchard farms two horses are required for spraying, mowing the orchard, and hauling apples. They remain idle for the greater part of the rest of the time, and it costs about as much to keep them as if they work every day.

The cost of producing apples is presented in Table 3. The average size of bearing orchard per farm for the three years 1932-1934 was 17.4 acres with an average of 64.6 bearing trees to the acre. The average investment per farm in land and trees was

Table 3.—Cost of producing apples per acre and per barrel on 30 orchard farms in Rouville county, Quebec, 1932–1934

| Item | 1932 | 1933 | 1934 | 3-year average |
|---|---|---|---|---|
| | $ | $ | $ | $ |
| *Overhead Costs* | | | | |
| Taxes | 4.80 | 4.67 | 4.67 | 4.72 |
| Repairs to buildings and equipment | 1.42 | 1.13 | 1.09 | 1.21 |
| Miscellaneous | 2.04 | 1.88 | 1.84 | 1.92 |
| Total overhead costs | 8.26 | 7.68 | 7.60 | 7.85 |
| *Growing Costs* | | | | |
| Man labour | 16.17 | 15.73 | 15.65 | 15.85 |
| Horse labour | 4.52 | 4.41 | 4.04 | 4.32 |
| Spray material | 6.21 | 5.91 | 4.68 | 5.60 |
| Fertilizer | 3.37 | 2.93 | 3.58 | 3.29 |
| Manure and straw | 3.38 | 3.14 | 2.14 | 2.89 |
| Total growing costs | 33.65 | 32.12 | 30.09 | 31.95 |
| *Harvesting Costs* | | | | |
| Man labour | 17.09 | 14.94 | 8.33 | 13.45 |
| Horse labour | 1.35 | 1.22 | 0.80 | 1.12 |
| Total harvesting costs | 18.44 | 16.16 | 9.13 | 14.57 |
| Total cost exclusive of depreciation and interest | 60.35 | 55.96 | 46.82 | 54.37 |
| Depreciation charge on building and equipment | 5.28 | 4.94 | 4.75 | 4.99 |
| Interest charge on investment at 5 per cent | 30.32 | 29.37 | 29.24 | 29.64 |
| Total cost of production per acre | 95.95 | 90.27 | 80.81 | 89.00 |
| Yield per acre (barrels) | 81.6 | 67.9 | 32.6 | 60.7 |
| Cost per barrel | 1.18 | 1.33 | 2.48 | 1.47 |

$9,040 or $519 per acre of bearing orchard and $8 per bearing tree; the investment in buildings (fruit house only) was $716 per farm or $41.11 per acre; the investment in orchard equipment was $582 per farm or $33.45 per acre. In addition to that there was an average of 8.0 acres of non-bearing orchard.

The overhead and growing costs per acre vary little from year to year unless something quite unusual occurs. In 1934 the growing costs per acre were somewhat lower than in 1932 and 1933 because of the large number of bearing trees killed during the previous winter.

Harvesting costs are closely related to the size of apple crop. A larger yield means more labour for picking and handling the crop. However, since the harvesting costs constitute only a certain percentage of the total cost of production per acre, a big crop of apples is usually produced at a much lower cost per barrel than a small crop.

The interest charge on orchard investment is an important item of cost. It amounted to 33.3% or exactly one-third of the total average cost of production per acre for the three years.

The crop of 1932 was a good one. The yield averaged 81.6 barrels per acre on these 30 farms and the cost of production $1.18 per barrel. The average yield of 67.9 barrels per acre in 1933 was a little higher than the average yield of 62.0 barrels per acre for the six years 1929–1934 and the cost of production per barrel averaged $1.33. The crop of 1934 was a failure resulting from the heavy loss of bearing trees during the previous winter; the average yield per acre was only 32.6 barrels and the average cost of production $2.48 per barrel. This accounts for the relatively high average cost of producing apples of $1.47 per barrel for the three years 1932–1934.

TABLE 4.—RANGE IN COST OF PRODUCTION PER BARRELL ON 30 ORCHARD FARMS IN ROUVILLE COUNTY, QUEBEC, 1932–1934

| Range | Number of farms | Barrels produced | Range in cost per barrel | Average cost per barrel |
|---|---|---|---|---|
| $ | | | $ | $ |
| Under 1.50 | 12 | 59,293 | 0.92–1.47 | 1.17 |
| 1.50–2.00 | 8 | 22,034 | 1.52–1.98 | 1.70 |
| 2.00–2.50 | 5 | 9,120 | 2.07–2.41 | 2.11 |
| Over 2.50 | 5 | 4,577 | 2.57–3.27 | 2.82 |
| Average | 30 | 95,204 | 0.92–3.27 | 1.47 |

***Range in Cost of Producing Apples.***—The total cost of producing apples per barrel including the depreciation and interest charges varies widely from farm to farm and from year to year according mainly to the yield secured. Crop failures due to hail, wind storms and particularly the disastrous winter season of 1934 explain the abnormally high cost on a few farms for the three years 1932–1934. While the average cost of production per barrel was $1.47 for this period it ranged from $0.92 to $3.27 on individual farms.

## SURVEY OF THE MARKETING OF FRUITS AND VEGETABLES IN THE CITY OF TORONTO AND THE SURROUNDING DISTRICT

At the request of the Toronto Terminal Market Committee, which is composed of representatives of fruit and vegetable growers, wholesalers, jobbers and commission merchants, the city of Toronto, retail store keepers, railroad and steamship lines and the Ontario and Dominion Governments under the chairmanship of Mr. Paul Fisher, appointed by the Ontario Minister of Agriculture, a comprehensive survey has been undertaken by the Economics Branch in co-operation with the Fruit Branch of the Dominion Department of Agriculture and the Ontario Department of Agriculture, to obtain information with respect to the marketing and distribution of fruits and vegetables in and about the city of Toronto. Data will be gathered on the volume and value of fruits and vegetables of all kinds consumed in Toronto, the source of such produce, the quantity transported to the city by railroads, trucks and boats, the volume handled by Toronto wholesalers and jobbers, the volume handled through public markets by growers and truckers, the quantities purchased direct by retailers at the store door from growers and truckers, and many other related facts which are deemed essential to the work of the Committee.

In addition to the survey outlined, the work of the Committee will include a consideration of various locations for a new terminal market in Toronto, the various methods of financing such a project, and the regulations and by-laws which should be passed if a market is established.

The gathering of the necessary facts and the tabulation of the figures obtained will cover a period of several months.

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The Extension Division, St. Francis Xavier University, has organized Adult Study Clubs throughout Eastern Nova Scotia, and these have been utilized as a means of getting the people of the county to take an intelligent interest in their problems. Lessons prepared by the Nova Scotia Department of Agriculture, using the Antigonish County Survey Report as the chief reference. Each lesson presents a few facts concerning the subject to be studied, references, topics for discussion and questions designed to cause the student to apply these facts to his own farm or locality. Mr. S. J. MacKinnon, Agricultural Representative, reports a keen interest and an especially good group of meetings during the winter.

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# The
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## THE ECONOMIC SITUATION

Prices during the first six months of 1936 recorded moderate gains over the same period of 1935. The index of wholesale prices of all commodities increased from 72.0 for the first half of 1935 to 72.4 for the first half of 1936 while the index number of the price of farm products amounted to 62.7 and 63.5, respectively, for the two periods. Retail prices and cost of services increased from an index of 78.8 for the first period to 80.2 for the latter.

During the depression while prices of farm products declined precipitously, retail prices and cost of services showed a marked resistance to any change. In February, 1933, when a low was recorded for primary products, the price of farm products was represented by an index of 43.0 and retail prices and cost of services by an index of 78.4. That is, it took 80 per cent more farm products to pay for a unit of goods at retail than it did in 1926. By June, 1936, the index of the price of farm products had risen to 64.5 while that of retail prices and cost of services stood at 80.0. That is, while prices of farm products registered an increase of 50 per cent, retail prices and cost of services only increased by 2 per cent. While a further rise in farm prices is required to restore the 1926 parity, the increase in the purchasing power of farm products which occurred during the past three years has done much to restore the farming business to a paying basis.

***Physical Volume of Business.***—Continued improvement of business activity during May is evidenced by a substantial increase in the production indices, not only over the preceding month but also over the same month of last year. The index of the physical volume of business at 109.7 showed an increase of 6.2 per cent in the twelve-month period. In spite of the recession during the first quarter, recent expansion will place the first five months of 1936 almost as high as the last quarter of 1935 which marked the high point of several years. Since as a result of a falling off of the movement of wheat, oats and cattle to market, grain and live stock marketings decreased from an index of 115.8 for April to 110.0 for May, the increase in physical production is wholly attributable to an improvement in industrial production. The most noteworthy gains occurred in manufacturing and crude petroleum imports. Increased activity in private building during the first five months of 1936 indicates a gradual return to normal business conditions. The production figures for June were entered after the above was written and may be referred to for comparison.

***Wholesale Prices.***—Price movements in May were characterized by declining tendencies in the majority of commodity groups. During June, however, a recovery was experienced, the index number of wholesale prices for the month being 72.3 as compared with 71.8 for May and 71.5 for June, 1935. The principal factor in this change in trend was the recovery in the index of the vegetable products group which occurred as a result of the increase in the prices of wheat and other grains following

### ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.6 | 106.2 | 108.8 | 34.0 | 133.4 |
| 1936 | | | | | | | | | |
| Jan. | 72.9 | 65.9 | 59.0 | 77.5 | 80.7 | 105.2 | 107.0 | 39.8 | 143.4 |
| Feb. | 72.5 | 66.0 | 58.9 | 77.8 | 80.4 | 104.9 | 104.9 | 62.7 | 150.3 |
| Mar. | 72.4 | 65.5 | 59.2 | 76.0 | 80.5 | 103.3 | 104.1 | 89.5 | 149.5 |
| Apr. | 72.2 | 65.0 | 59.8 | 73.8 | 79.8 | 108.8 | 109.2 | 115.8 | 149.3 |
| May | 71.8 | 64.8 | 59.9 | 73.0 | 80.1 | 109.7 | 110.6 | 110.0 | 144.5 |
| June | 72.3 | 64.5 | 60.8 | 70.7 | 80.0 | 110·3 | 111·6 | 73·9 | 171·9 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p. 52, and Monthly Mimeographs 1934 and 1935.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

reports of adverse weather in some of the more important wheat belts of North America. A substantial increase also occurred in the animal and animal products group index in spite of a violent decline in the prices of hides and skins and of fats.

With the exception of the textile and chemical groups in which heavy losses were sustained, an advance in wholesale prices was recorded in June, 1936, as compared with the same month of the previous year.

***Retail Prices.***—The index of retail prices, rents and cost of services at 80.0 showed a slight decline as compared with the month previous caused by a decrease in the price of fuel. Slight increases were recorded in most of the constituents making up the index as compared with June, 1935, when the index stood at 78.8.

***Prices of Farm Products.***—With one of the smallest visible supplies of wheat for several years and reports of crop reduction due to drought, Canadian wheat prices made appreciable gains during June. The price of No. 1 Northern wheat at Winnipeg increased from 75¾ cents on June 1 to 84 cents on June 25, falling to 80⅝ cents at the end of the month as a result of rains. A substantial improvement in prices of the coarse grains also occurred during June. Although cattle markets opened firm, heavy marketings and a decreased demand in the export trade resulted in lower prices during the month. As a result of a reduction in offerings and improved domestic buying, prices again advanced toward the end of the month. Prices for live hogs averaged considerably higher during June than in the month previous. Prices of butter and eggs not only exceeded those obtained in May but also those of June 1935. Cheese prices in June averaged 13.1 cents, almost 3 cents higher than for the same month of 1935. This is the highest point recorded since 1930. Decreases occurred in prices of milk and hides and skins. Recent crop reports state that while northern areas of Manitoba, some eastern and central parts of Saskatchewan and northern districts of Alberta retain fair prospects, a huge grain area has been irreparably damaged and is still deteriorating. Hail losses have been extensive in Saskatchewan and Alberta while grasshoppers are migrating to the better crop areas. Danger of significant rust damage is present in some areas. Rain is urgently needed to arrest declining crop prospects.

***Prices in United Kingdom.***—The index number of the prices of agricultural produce (1911—13 = 100) was 115 for May as compared with 123 for April and 111 for May 1935. If allowance be made for payments under the Wheat Act, 1932, and the Cattle Industry Act, 1934, the index for May would be 120. Wheat, barley, oats, fat cattle, bacon hogs, eggs and potatoes showed an increase above April price levels. Fat sheep, porkers, butter and milk declined.

***The Situation in the United States.***—Industrial activity was 19 per cent greater in May 1936 than in May 1935. Construction activity continues to be the weakest part of the domestic demand situation. The money income of consumers has continued to increase and in May reached 82.5 per cent of the 1924–29 average. This is a new high level for the recovery period, representing an increase of nearly 40 per cent from the low point of 1933. Compared with May 1935, consumer income per person, exclusive of income from farm production, was 10 per cent greater and could purchase 12 per cent more in exchange for food and 9 per cent more in exchange for other items in the average industrial worker's budget. The higher volume of consumption of agricultural products for industrial uses and the higher level of consumer purchasing power is maintaining the cash income from the sale of farm products, particularly live stock and live stock products, well above the comparable 1935 returns.

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The fourth meeting of the International Conference of Agricultural Economists will be held at St. Andrews, Scotland, August 31st to September 7th. The President, Mr. L. K. Elmhirst, announces that the Conference will concern itself mainly with regard to the following questions: The relations of agriculture to industry and the community; The relation of land tenure to the economic and social development of agriculture; Farm organization with special reference to the needs of the technical, industrial and economic development of agriculture. Others papers dealing with various subjects will also be read.

## THE CANADIAN COUNCIL ON BOYS' AND GIRLS' CLUB WORK

The Canadian Council on Boys' and Girls' Club Work was organized in 1931 for the purpose of developing and maintaining a national boys' and girls' farm club policy for the co-ordination of effort, by the unification of the basic principles of club organization and activity and by fostering the development of club work on a sound and constructive basis. The present membership of the Council includes the Dominion Department of Agriculture, all of the Provincial Departments of Agriculture, except that in Saskatchewan, the Extension Department of the University of Saskatchewan being the member representing that province, and several business institutions and associations, including the Canadian National Railways, Canadian Pacific Railway, Industrial and Development Council of Canadian Meat Packers, International Harvester Company of Canada, Limited, North-West Grain Dealers' Association, Canadian Ayrshire Breeders' Association, Canadian Jersey Cattle Club, Canadian Seed Growers' Association, Canadian Swine Breeders' Association, and the Holstein-Friesian Association of Canada. The central office of the Council is located at Ottawa, and the General Secretary is A. E. MacLaurin.

The administration of the Council is financed by grants from the Dominion and Provincial Departments of Agriculture, and the membership subscriptions of the business institutions and associations are devoted to the conduct of annual inter-provincial club contests at the Royal Winter Fair.

Club work for farm boys and girls, which began in Canada about twenty-five years ago, has been gradually developed and improved until it now occupies a prominent position in the agricultural extension programs of all Departments of Agriculture. Club work is designed to develop interest in the farm and farm life, to provide a practical education in agriculture and home economics, to improve farm practices, to encourage the use of better live stock and seed, and to train young people for citizenship in their respective districts.

National, or inter-provincial club contests are conducted annually by the Canadian Council in conjunction with the Royal Winter Fair at Toronto. In 1935 six projects, including dairy cattle, beef cattle, swine, poultry, seed grain and seed potatoes, were included in the contest program, and sixty-four members, or thirty-two teams of two members each, competed, representing every Province in the Dominion.

Five of the annual National Contests have been conducted by the Council since it was formed in 1931. It has been clearly demonstrated that these contests have a very definite and beneficial influence on club activities. The necessary regulations for the contests have a bearing upon the basis of club organization and activity and the oral examinations, which form part of each project contest, encourage greater study of the project in hand by club members. Teams are selected for the contest at Toronto by means of provincial elimination contests conducted on the same general basis as the national event.

In 1935 there were 30,282 members enrolled in 1,900 active boys' and girls' clubs in Canada. The rate of progress in point of numbers enrolled is indicated by comparison with the figures for 1931, when there were 1,215 clubs with 21,142 members.

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The Canadian Society of Agricultural Economics held its annual meeting at the University of New Brunswick, Fredericton, N.B., July 14th to 16th. Land settlement, rural population movement, agricultural policy, agricultural economics, curriculae and research were featured in this eighth annual meeting. The officers for the coming year are: President—Dr. T. W. Grindley, Agricultural Branch, Dominion Bureau of Statistics, Ottawa; Vice-President—J. Coke, Economics Branch, Department of Agriculture, Ottawa; Secretary-Treasurer—J. B. Rutherford, Agricultural Branch, Dominion Bureau of Statistics, Ottawa; Committee—Prof. Chas. Gagne, Ste. Anne de la Pocatiere, Quebec, F. W. Reinoehl, Winnipeg, Manitoba, C. W. Riley, Guelph, Ontario and A. Stewart, Edmonton, Alberta.

# SOME PROBLEMS IN RURAL APPRAISAL

S. C. Hudson[1]

The inadequacy of farm appraisal methods has been forcibly demonstrated by the large number of farm mortgage defaults and debt adjustments which have occurred since 1929. While land values were rising, careful appraisal was not particularly important since land values were increasing fast enough to counteract an over-valuation of property. Declining land values, however, have provided an impetus for the development of a sound objective basis for land valuation. Farmers buying farms on a fifty per cent equity or better during the post-war period have recently found their equity to be wiped out and the fruits of a lifetime's labour lost.

Land has value because it produces an income in the form of materials and services that satisfy human wants. This income may be material or psychic or both. It may appear in the form of the products of the soil, the situation factor, or the expected increase in income—the speculative factor. The task which the appraiser is called upon to perform is to determine that income and to express it in terms of a present worth.

***Basis of Appraisal.***—The most commonly used guide in farm appraisal practice has undoubtedly been sale value. Since sale value reflects the opinion of the multitude of individuals who make up the market, it is considered by many writers to be the best measure of value. In a perfect market, in the case of consumable goods, the market price is undoubtedly the best obtainable measure of value. The necessity of forecasting future income in the valuation of land or capital goods, however, introduces a factor which reduces the accuracy of this market value. A comparison of farm sale values and the prices of farm products indicates that sale values are for the most part based on current earnings, little consideration being given to probable price trends. As a consequence, appraisals for loan purposes based upon sale values cause over-inflation of land values during periods of rising prices due to excessive liberality in lending. During a period of falling prices, on the other hand, land values are deflated and it is impossible for the farmer to obtain sufficient credit to meet his needs. Widespread default must follow.

A perfect market, moreover, implies that the commodity sold is uniform or that there is a complete and accurate knowledge of all differences in it. From this standpoint, the land market cannot be considered a perfect market. Land not only lacks uniformity but the elements of variation are not generally known. In this connection, a study of apple farms in the Newfane-Olcott area of Western New York during the 13-year period 1913–1925 indicates that a farmer might better have paid $292 per acre for the average farm on Dunkirk sandy loam soil rather than have accepted a farm on Clyde fine sandy loam soil as a gift[2]. During this period, farms on Dunkirk sandy loam soil sold at prices approximating $292 per acre while those on Clyde fine sandy loam were valued at $182 per acre. That is, individuals making up the farm real estate market not only failed to consider the longtime price trend but also failed to give sufficient consideration to the relative earning capacity of farms on the different soil types.

One of the principal reforms in appraisal practice within recent years has been a shift from sale value to normal value as a basis of appraisal. In this connection, the United States Federal Farm Loan Act, as amended, requires that the value of land for agricultural purposes shall be the basis of appraisal and that the earning power of the land shall be a principal factor. In arriving at the value of a farm under these provisions, an estimate is made of the average annual yields of crops that the farm would ordinarily produce in the hands of an average farmer, taking into consideration quality of soil, topography, normal rainfall, frequency of sub-normal precipitation, quality and adequacy of water supply and other related factors. Average unit prices received by farmers during 1909 to 1914 with such adjustments as may be necessary by reason of subsequent changes in the economic position of certain commodities, are applied to the quantity of crops produced in establishing the average annual gross income. The appraiser then determines the net income and by applying a rate of capitalization previously established arrives at the normal value of the farm.

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[1] Assistant Economist, Economics Branch, Department of Agriculture, Ottawa, Canada.

[2] Scoville, G. P. *et al*, The Apple Situation in New York, Cornell Ext. Bulletin 172, 1928.

The selection of a base period for the calculation of normal income has been subject to some controversy. Following a thorough research into price trends for the past 135 years, the United States Farm Credit Administration arrived at the conclusion that prices would probably return to approximately the average level which prevailed during the 10-year period 1905–1914. For sake of convenience, the somewhat similar 5-year period 1909–1914 was selected as the standard of normal prices. Other authorities indicate a preference for the use of the preceding 20 years as the base. While such methods of establishing a base period leave much to be desired, they represent at least a movement in the direction of a more scientific procedure and will aid in the obtaining of greater reliability in appraisals until more exact methods of price forecasting are devised. Since such a practice means lending more than prevailing prices justify during periods of low prices and less than prevailing prices justify during periods of high prices, it has a stabilizing effect upon the agricultural industry.

While in most types of farming in Canada, price is the predominant factor causing variation in farm income, there are other instances in which the hazards of production are more important than price variation in causing variability in income. This is particularly true in the production of such cash crops as wheat and tobacco. It is of the utmost importance that, in arriving at the valuation of lands normally used for such crops, cognizance be taken of the exigencies of production.

*Appraisal of Individual Farms.*—In actual practice appraisers do not ordinarily attempt to value each farm independently but rather engage in what might be termed "relative appraisal". That is, when an appraiser begins work in an area, one or more farms are selected for which a very careful appraisal is made according to the methods outlined above. The valuations of these base farms are then used as a guide in making other appraisals in that region. A somewhat similar method of relative valuation is used by assessors. Although the assessed valuation is not necessarily the same as the actual value, the assessed value of two properties in the same community supposedly bear the same relationship to each other as that existing between their full values. The need for greater care and improved methods in such valuation procedure has been demonstrated by several studies which have indicated that appraisers and assessors tend to over-value poor land and to under-value good land relative to their earning capacity[3]. This is caused by the appraiser placing undue emphasis on certain factors in connection with the individual farm while virtually neglecting other factors[4].

The appraisal of an individual farm for loan purposes involves two considerations, the security offered and the personal risk. While in the final analysis because of the uncertainty of the length of human life the amount loaned must depend largely on the security, the personal factor has too often been neglected. Since a farm loan organization is in business as a long-time proposition to give service to the agricultural industry, the maximum loan to be granted on an individual farm should be determined not merely by the amount which could be obtained should it be necessary to liquidate the security but by the annual payments which a farmer may be in a position to make under normal conditions after paying the necessary operating expenses and obtaining a reasonable standard of living for himself and family. Many small unproductive farms while having a sale value have no loan value due to the fact that after paying operating expenses and yielding even a meagre standard of living to the family, nothing is left to cover payments of interest and principal. On the other hand, under some circumstances, a farmer might be able to service a larger loan than the market value would appear to justify. In the appraisal of the personal risk consideration should be given to the applicant's ability as a farmer, his age, education and experience, financial progress, character and reputation in the community and finally his family—are they likely to be an asset or a liability in the repayment of his loan.

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[3] Murray, W. G., "The Land Appraisal Problem", Journal of Farm Economics, October, 1934. Hammer, C. H., "The Accuracy and Flexibility of Rural Real Estate Assessment in Missouri", Missouri Agr. Exp. Sta. Bulletin 169, 1932. Hudson, S. C., "Rural Taxation in Ontario", Dominion Department of Agriculture Technical Bulletin No. 4.

[4] For a discussion of factors affecting security of loans, see Hill, F. F., "An Analysis of the Loaning Operations of the Federal Land Bank of Springfield", Cornell Bulletin 549, 1932.

In the appraisal of the farm itself, one of the most important factors is the community. It is apparent that the risks of loss are at a minimum on a farm in a prosperous community which has good roads, schools and churches, adequate market facilities, modern conveniences such as mail delivery, telephone and electricity and a high type of citizen. In rating the farm itself, careful consideration must be given to the production factors including type of farming to which adapted, quality, desirability and crop adaptation of soil, size of business, adequacy and condition of buildings, farm layout, water supply, improvements, convenience of operation and home attractiveness.

Finally, one of the greatest problems in appraisal is the appraiser himself. For any task with a degree of complexity so great as that of appraisal, a man of unusual ability is required. One of the first qualifications for a good appraiser is honesty. An appraiser has a two-fold responsibility and must discharge it in a manner which is fair to both borrower and lender. A second pre-requisite is common sense. He must be mentally alert and open-minded. He must have the ability to analyze and having analyzed, to make a decision. He must have a broad training in scientific agriculture and farm management and must be familiar with the farmers' problems and the farmers' point of view. Having found a man who embodies the above attributes, he must be equipped with the necessary aids such as information on the soils and land classification of his area, price data, land valuations and information concerning the relation of the various appraisal factors to loan risk.

While we in Canada have a long way to go before we can hope for the solution of all of the problems which have been discussed, the recognition of the fact that they exist is in itself a movement in the right direction.

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The Department of Farm Management, University of Saskatchewan, in co-operation with the Economics Branch of the Dominion Department of Agriculture, is conducting a land utilization survey in southern Saskatchewan. A similar study is being carried on by the Economics Branch in co-operation with the Provincial Department of Agriculture in Alberta. Field parties are now at work in both provinces.

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The eighteenth annual meeting of the American Institute of Cooperation was held at the University of Illinois, Urbana, Illinois, June 15th to 19th. The registration was approximately 1,800, the largest in the history of the Institute. The program was featured by a series of lectures by J. R. Barton on the philosophy of cooperation. Among the speakers on the regular program were C. C. Teague, California Fruit Growers Association; Quentin Reynolds of the Eastern States Farmers Exchange; C. W. Peterson, Farm and Ranch Review, Calgary; Chester Davis, Agricultural Adjustment Administration, Washington, D.C.; H. R. Tolley, Agricultural Adjustment Administration, Washington, D.C.; Dr. A. G. Black, Bureau of Agricultural Economics, Washington, D.C.; Dr. F. W. Peck and Dr. O. B. Jesness, University of Minnesota; Lyn Edminster, State Department, Washington, D.C.; H. C. Case, Agricultural Economics Department, University of Illinois, and Dr. M. P. Rasmussen, Cornell University.

## MORE FACTS CONCERNING MILK CONSUMPTION IN CANADA[1]

G. P. BOUCHER[2]

The main purpose of this article is to give some additional figures obtained in connection with the milk and cheese consumption survey of 1935. The article which appeared in the last issue of the Economic Annalist dealt mostly with the consumption of milk. The present discussion will aim to show the proportion of children who do not drink milk and the proportion of those who drink beverages other than milk in the three Canadian cities, villages and rural areas in which the study was carried on.

The first table shows the relation between family income and the proportion of children in three age groups who do not consume milk as a beverage in the three cities of Oshawa, Quebec and Calgary. With an increase in the family income, there is a decrease in the number of children not drinking milk. Except in the city of Oshawa, there is a greater proportion of girls than boys not drinking milk. The city of Calgary shows a smaller number of children not drinking milk than the other two

TABLE 1.—RELATION BETWEEN FAMILY INCOME AND NON-CONSUMPTION OF MILK AS A BEVERAGE BY 3,939 CHILDREN OF VARIOUS AGE GROUPS IN 2,602 FAMILIES IN THE CITIES OF OSHAWA, QUEBEC AND CALGARY, 1935

| Family income | Total children | Percentage of children not drinking milk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| *City of Oshawa—* | | | | | | | | | | |
| On Relief | 72 | 20 | 15 | 33 | 21 | 8 | 25 | 13 | 15 | 18 |
| Under $1,000 | 458 | 17 | 27 | 47 | 27 | 11 | 31 | 44 | 27 | 27 |
| $1,000–$2,000 | 397 | 12 | 25 | 24 | 19 | 5 | 21 | 30 | 17 | 18 |
| $2,000–$4,000* | 100 | 11 | 14 | 17 | 14 | 6 | 35 | 11 | 20 | 16 |
| Total | 1,027 | 14 | 23 | 34 | 22 | 7 | 26 | 34 | 21 | 21 |
| *City of Quebec—* | | | | | | | | | | |
| On Relief | 142 | 22 | 42 | 91 | 41 | 32 | 50 | 69 | 44 | 43 |
| Under $1,000 | 631 | 15 | 38 | 48 | 31 | 17 | 44 | 52 | 34 | 32 |
| $1,000–$2,000 | 611 | 8 | 23 | 20 | 16 | 10 | 28 | 34 | 24 | 20 |
| $2,000–$4,000 | 280 | 2 | 3 | 23 | 6 | 6 | 9 | 40 | 14 | 9 |
| $4,000 and over | 151 | 10 | 6 | 5 | 7 | 7 | 10 | 15 | 11 | 8 |
| Total | 1,815 | 11 | 24 | 33 | 20 | 15 | 29 | 41 | 26 | 23 |
| *City of Calgary—* | | | | | | | | | | |
| On Relief | 125 | 19 | 38 | 42 | 32 | 36 | 34 | 18 | 30 | 31 |
| Under $1,000 | 273 | 14 | 27 | 42 | 19 | 12 | 27 | 61 | 31 | 24 |
| $1,000–$2,000 | 393 | 3 | 8 | 25 | 9 | 4 | 13 | 32 | 17 | 12 |
| $2,000–$4,000† | 229 | 6 | 8 | 20 | 10 | — | 11 | 19 | 10 | 10 |
| Total | 1,020 | 8 | 18 | 30 | 14 | 9 | 18 | 33 | 20 | 16 |
| *All three cities—* | | | | | | | | | | |
| On Relief | 339 | 21 | 33 | 56 | 33 | 28 | 38 | 34 | 33 | 33 |
| Under $1,000 | 1,362 | 15 | 47 | 46 | 27 | 14 | 36 | 52 | 31 | 29 |
| $1,000–$2,000 | 1,401 | 8 | 18 | 23 | 15 | 7 | 23 | 32 | 20 | 17 |
| $2,000–$4,000 | 609 | 5 | 6 | 21 | 7 | 10 | 9 | 37 | 17 | 11 |
| $4,000 and over | 228 | 7 | 3 | 4 | 4 | 4 | 7 | 12 | 7 | 6 |
| Total | 3,939 | 11 | 23 | 32 | 19 | 11 | 23 | 37 | 31 | 21 |

* In the income group, $4,000 and over, there were 30 children all consuming milk.
† In the income group, $4,000 and over, there were 47 children all consuming milk.

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[1] Preliminary statement subject to revision and correction.

[2] Field Assistant, Economics Branch, Department of Agriculture, Ottawa.

cities. In most cases, there is an increase in the proportion of children not drinking milk corresponding with the increase in age of the children.

Table 2 gives the proportion of children within various age groups who do not drink milk in three villages and five rural areas. These localities are the same as those described in the last issue of the Economic Annalist. With the increase in age, there is an increase in the proportion of children not drinking milk for every locality. The proportion of children not drinking milk is much higher in the villages than in the rural areas. It is also much higher in the rural non-cheese producing areas than in the rural cheese producing areas.

TABLE 2.—NON-CONSUMPTION OF MILK AS A BEVERAGE BY CHILDREN IN VARIOUS AGE GROUPS IN 611 FAMILIES IN THREE VILLAGES AND FIVE RURAL AREAS IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA

| Locality | Total children | Percentage of children not drinking milk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| Villages | 313 | 15 | 30 | 53 | 30 | 13 | 33 | 46 | 29 | 29 |
| Rural cheese areas | 189 | 2 | — | 17 | 3 | 11 | 18 | 15 | 14 | 8 |
| Rural non-cheese areas | 352 | 23 | 26 | 33 | 27 | 19 | 38 | 35 | 31 | 44 |
| Rural areas | 643 | 13 | 15 | 25 | 16 | 14 | 25 | 28 | 21 | 19 |

TABLE 3.—RELATION BETWEEN FAMILY INCOME AND NON-CONSUMPTION OF MILK AS A BEVERAGE BY CHILDREN FROM 3,213 URBAN AND RURAL FAMILIES IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA, 1935

| Family income | Total children | Percentage of children not drinking milk | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| Relief | 354 | 22 | 35 | 53 | 34 | 29 | 38 | 33 | 33 | 33 |
| Under $1,000 | 1,965 | 14 | 30 | 44 | 27 | 16 | 36 | 47 | 30 | 28 |
| $1,000–$2,000 | 1,655 | 9 | 18 | 25 | 16 | 7 | 23 | 34 | 21 | 18 |
| $2,000–$4,000 | 674 | 4 | 6 | 21 | 8 | 4 | 15 | 25 | 13 | 10 |
| $4,000 and over | 239 | 7 | 3 | 4 | 4 | 4 | 7 | 11 | 7 | 6 |
| Not stated | 8 | — | — | — | — | — | — | — | — | — |
| Total | 4,895 | 11 | 21 | 33 | 20 | 12 | 27 | 37 | 24 | 22 |

Table 3 is designed to show the relation between family income and non-consumption of milk by children for all the localities that have been under study. It shows an inverse relationship between family income and the number of children not drinking milk, there being a range from 33 for those on relief and 28 for those having a family income of less than $1,000, to 6 with those families having an income of over $4,000 a year. A greater proportion of girls than of boys do not drink milk and there is a smaller consumption of milk with an increase in age as is also seen in Tables 1 and 2.

The next three tables deal with the consumption of beverages other than milk by children of various age groups. These tables have been arranged in the same way as the three preceding ones in order to make comparisons possible. The relation between family income and the consumption of beverages other than milk by children for the three cities mentioned previously is shown in Table 4. A greater consumption of such beverages with an increase in age is easily noticed. However, there is a decrease in consumption with an increase in family income. This might be explained by the fact that more children drink milk in the larger income groups as shown in the Tables 1, 2 and 3 which emphasize non-consumption of milk. A slightly larger proportion of girls than boys drink beverages other than milk. This does not hold true for the city of Oshawa, however, where the proportion is somewhat higher for boys than for girls.

TABLE 4.—RELATION BETWEEN FAMILY INCOME AND CONSUMPTION OF BEVERAGES OTHER THAN MILK BY 3,939 CHILDREN WITHIN VARIOUS AGE GROUPS IN 2,602 FAMILIES IN THE CITIES OF OSHAWA, QUEBEC AND CALGARY, 1935

| Family income | Total children | Percentage of children drinking other beverages | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| *City of Oshawa*— | | | | | | | | | | |
| On Relief | 72 | 70 | 65 | 100 | 74 | 46 | 58 | 75 | 58 | 67 |
| Under $1,000 | 458 | 51 | 62 | 63 | 58 | 45 | 57 | 66 | 55 | 57 |
| $1,000–$2,000 | 397 | 23 | 49 | 51 | 36 | 29 | 42 | 43 | 32 | 34 |
| $2,000 and over | 130 | 14 | 16 | 33 | 19 | 13 | 32 | 44 | 26 | 22 |
| Total | 1,057 | 38 | 52 | 58 | 48 | 33 | 49 | 55 | 45 | 47 |
| *City of Quebec* | | | | | | | | | | |
| On Relief | 142 | 31 | 38 | 73 | 41 | 43 | 55 | 77 | 53 | 47 |
| Under $1,000 | 631 | 25 | 58 | 72 | 47 | 37 | 61 | 79 | 54 | 51 |
| $1,000–$2,000 | 611 | 17 | 41 | 31 | 29 | 19 | 43 | 52 | 37 | 33 |
| $2,000 and over | 431 | 15 | 26 | 31 | 22 | 13 | 22 | 49 | 25 | 24 |
| Total | 1,815 | 21 | 43 | 47 | 35 | 28 | 43 | 62 | 42 | 38 |
| *City of Calgary*— | | | | | | | | | | |
| On Relief | 125 | 57 | 75 | 67 | 68 | 43 | 76 | 65 | 65 | 66 |
| Under $1,000 | 273 | 30 | 57 | 67 | 49 | 34 | 68 | 73 | 58 | 53 |
| $1,000–$2,000 | 393 | 24 | 47 | 33 | 40 | 43 | 43 | 58 | 49 | 50 |
| $2,000 and over | 276 | 30 | 27 | 23 | 26 | 19 | 28 | 38 | 29 | 28 |
| Total | 1,067 | 30 | 72 | 44 | 41 | 34 | 49 | 58 | 47 | 43 |
| *All three cities*— | | | | | | | | | | |
| On Relief | 339 | 46 | 60 | 78 | 58 | 44 | 65 | 71 | 58 | 58 |
| Under $1,000 | 1,362 | 35 | 59 | 67 | 52 | 39 | 61 | 74 | 55 | 53 |
| $1,000–$2,000 | 1,401 | 22 | 45 | 37 | 34 | 28 | 43 | 52 | 40 | 37 |
| $2,000 and over | 837 | 20 | 25 | 29 | 24 | 15 | 25 | 44 | 26 | 25 |
| Total | 3,939 | 28 | 52 | 49 | 40 | 31 | 46 | 59 | 44 | 42 |

There is a much larger proportion of children consuming beverages other than milk in villages (Table 5) than in rural areas. The proportion of children consuming such beverages is also very much smaller in rural cheese producing areas than in rural non-cheese areas. There is also a direct relationship between age and the consumption of beverages other than milk except in the case of girls in villages in which

TABLE 5.—RELATION BETWEEN FAMILY INCOME AND CONSUMPTION OF BEVERAGES OTHER THAN MILK BY 643 CHILDREN WITHIN VARIOUS AGE GROUPS IN 611 FAMILIES IN THREE VILLAGES AND FIVE RURAL AREAS IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA

| Family income | Total children | Percentage of children drinking other beverages | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| Villages | 313 | 25 | 41 | 56 | 39 | 23 | 45 | 31 | 34 | 37 |
| Rural cheese areas | 189 | 13 | 5 | 17 | 7 | 9 | 15 | 15 | 12 | 9 |
| Rural non-cheese areas | 352 | 8 | 23 | 19 | 17 | 10 | 20 | 33 | 19 | 18 |
| Rural areas | 643 | 14 | 18 | 25 | 18 | 13 | 25 | 35 | 21 | 20 |

TABLE 6.—RELATION BETWEEN FAMILY INCOME AND CONSUMPTION OF BEVERAGES OTHER THAN MILK IN 3,213 URBAN AND RURAL FAMILIES IN THE PROVINCES OF QUEBEC, ONTARIO AND ALBERTA, 1935

| Family income | Total children | Percentage of children drinking other beverages | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Boys | | | Total for boys | Girls | | | Total for girls | Total for all children |
| | | Under 6 years | 6–12 years | 13–16 years | | Under 6 years | 6–12 years | 13–16 years | | |
| | | % | % | % | % | % | % | % | % | % |
| On Relief | 354 | 47 | 60 | 74 | 58 | 45 | 67 | 70 | 59 | 59 |
| Under $1,000 | 1,965 | 29 | 50 | 59 | 44 | 29 | 48 | 61 | 43 | 44 |
| $1,000–$2,000 | 1,655 | 22 | 42 | 36 | 33 | 28 | 42 | 49 | 39 | 36 |
| $2,000–$4,000 | 674 | 19 | 25 | 30 | 24 | 15 | 27 | 48 | 27 | 25 |
| $4,000 and over | 239 | 17 | 22 | 30 | 23 | 12 | 21 | 33 | 22 | 22 |
| Not stated | 8 | — | 50 | — | 33 | 100 | 33 | 100 | 60 | 50 |
| Total | 4,895 | 26 | 43 | 47 | 37 | 28 | 43 | 54 | 40 | 38 |

case no definite relationship seems to exist. There is also a larger proportion of girls than of boys drinking beverages other than milk in rural areas. The opposite is the case in villages.

Table 6, which is a summary of Tables 4 and 5, shows a larger proportion of children drinking beverages other than milk with an increase in age and a smaller proportion drinking such beverages with an increase in family income. A slightly larger proportion of girls than boys drink beverages other than milk.

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A study of the cost of producing milk in Ontario has been undertaken by the Economics Branch of the Dominion Department of Agriculture and the Economics and Animal Husbandry Departments of the Ontario Agricultural College in co-operation with Milk Producers' organizations in the Province of Ontario. Account books have been distributed to dairy farmers who will record data for a period of a year after which it will be analysed by officers of the Economics Branch and the Ontario Agricultural College.

# ECONOMIC ASPECTS OF APPLE PRODUCTION IN ROUVILLE COUNTY, QUEBEC

A. Gosselin[1]

A summary of the financial returns and the cost of producing apples on 30 orchard farms of Rouville County was presented in the June issue of this periodical[2]. This article will deal with the cost of marketing apples, the price of apples, the cash outlay for operating bearing orchards and man labour requirements on apple crop.

***Apples Trucked and Sold at Public Markets.***—A large number of growers of this district truck their apples to Montreal public markets where they either retail them to individual buyers or sell them to grocery and fruit stores. In 1932 ten growers sold 22 per cent of the total crop harvested on the 30 orchards included in this study through this channel. In 1933 the quantity of apples sold at public markets by 12 growers amounted to 28 per cent and in 1934 fifteen growers marketed in the same way 37 per cent of the total crop of the 30 orchards.

While this method of marketing presents several weaknesses, it nevertheless offers to many growers an opportunity to dispose of low grade apples which would not be used otherwise, and provides work at a time of the year during which there is little to do in the orchard. The proximity of a large consuming centre like Montreal combined with the practice followed by many city people of buying a large part of their fruits and vegetables at public markets explain the popularity of this method of marketing apples. It is claimed, however, that the sale of a large quantity of low grade apples spoils the market for the good ones and that, from the consumer's standpoint, it is a poor bargain because of the considerable waste resulting from their use.

The cost of trucking and selling apples at public markets itemized in Table 5 shows that the two major items of cost are the use of the motor truck and labour required for handling and selling. The same containers are often used from year to year and this item amounts to very little. The item "other costs" is made up of bridge tolls, market fees and board of the operator while he is away from home.

Table 5.—Cost of marketing apples at public markets

| Item of cost per barrel | 1932 | 1933 | 1934 | 3-year average |
|---|---|---|---|---|
| | cents | cents | cents | cents |
| Labour for grading, packing, hauling to market and selling | 0.22 | 0.25 | 0.32 | 0.26 |
| Containers | 0.05 | 0.08 | 0.02 | 0.05 |
| Truck expenses | 0.27 | 0.26 | 0.26 | 0.27 |
| Other costs | 0.08 | 0.09 | 0.12 | 0.09 |
| Total marketing costs | 0.62 | 0.68 | 0.72 | 0.67 |

The average price per barrel of apples sold at public markets was $2.65 in 1932, $2.35 in 1933, $3.25 in 1934 and $2.69 for the three-year period.

***Apples Sold at the Farm.***—Most apple growers in this district sell their crop to wholesalers and truckers at the farm. Apples sold to wholesalers are graded and packed in barrels usually supplied by buyers. The main item of cost in this case is made up of labour required for grading and packing. Apples sold to truckers are roughly graded in open packages and the buyers exchange the containers or return them to the growers.

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[1] Economist, Agricultural Economics Branch, Ottawa.
[2] See the *Economic Annalist*, Vol. VI, No. 3, pp. 44–48.

The cost of grading, packing and handling apples sold at the farm to wholesalers or truckers averaged 23 cents per barrel for the three years 1932-1934. The average price per barrel received by growers was $1.84 in 1932, $1.92 in 1933, $2.79 in 1934 and $2.00 for the three-year period.

It is very difficult to make comparison of the prices received by growers who market their apples through various methods because it is almost impossible to secure accurate data on varieties and grades handled in each case.

***Cost of Marketing Apples.***—Several methods are used by apple growers of this district for the disposal of their crop. A certain number sell their apples to truckers and wholesalers at the farm. Others truck their apples to Montreal and retail them at public markets. A few dispose of a part of their crop at roadside stands. In Abbotsford, where a co-operative packing plant was organized a few years ago, a large portion of the crop harvested by the growers included in this study was marketed through that plant for the year 1932 but practically none in 1933 and 1934. The cost of marketing apples given in Table 6 represents the average cost to dispose of the total crop of these growers through various methods.

The average cost of marketing the apple crop in this district is rather low for the reason that most growers retailing their apples at public markets use the same containers from year to year, while those selling to truckers exchange them. The only apples boxed were those sold through the co-operative packing plant at Abbotsford. The higher marketing cost per barrel recorded in 1932 is explained by the fact that a portion of the crop was handled through the co-operative packing plant where the total handling charge amounted to 36 cents per bushel hamper for summer varieties and 60 cents per box for winter varieties or $1.80 per barrel. The box alone cost 24 cents. Of course the price received for boxed apples was correspondingly much higher than the average price for the whole crop.

TABLE 6.—COST OF MARKETING APPLES PER BARREL ON 30 ORCHARD FARMS IN ROUVILLE COUNTY, QUEBEC, 1932–1934

| Item of cost per barrel | 1932 | 1933 | 1934 | 3-year average |
|---|---|---|---|---|
| | cents | cents | cents | cents |
| Labour for grading, packing, hauling to market and selling | 0.16 | 0.17 | 0.21 | 0.17 |
| Containers | 0.21 | 0.07 | 0.03 | 0.13 |
| Other expenses | 0.22 | 0.17 | 0.17 | 0.19 |
| Total marketing costs | 0.59 | 0.41 | 0.41 | 0.49 |

***Cash Outlay for Operating Bearing Orchard.***—While from a general point of view and for the purpose of comparison between various type of farm enterprises it is useful to calculate the cost of production according to some standard method, most farmers are particularly interested to know the cash outlay required for producing and marketing their crop.

They want to know the margin between their cash operating expenses and cash returns for they depend on that to pay for the use of borrowed capital and their living expenses. The cash expenses required for operating a bearing orchard consist of hired labour, purchased feed for horses, spray material, fertilizers, containers, trucking and selling apples, taxes, repairs to buildings and equipment and a few other minor expenses.

The average cash expenses per barrel for producing and marketing apples on these 30 orchards amounted to $1.00 in 1932, $0.88 in 1933 and $1.32 in 1934. The average for the three-year period was $1.01 per barrel. Since more hired help is required for handling a heavy crop than a small one, up to a certain limit the cash expenses increase with the yield.

***Price per Barrel of Apples.***—The average price per barrel for all grades of all varieties of apples sold by the 30 growers was $2.14 in 1932, $2.00 in 1933, $2.94 in 1934, and $2.23 for the three-year period, while for the previous period it had been $3.17 in 1929, $3.33 in 1930, $2.66 in 1931 and $3.03 for the three years. It must be pointed out, however, that a good portion of the crop is made up of summer varieties which command a low price and a high percentage of the winter varieties are of very low grades. The wholesale price to the growers for No. 1 McIntosh apples varied from $3.25 to $3.50 per barrel in 1932, from $3.00 to $3.25 in 1933, and from $4.75 to $5.50 in 1934.

***Man Labour Requirements on Apple Crop.***—The amount of man labour required to perform various operations in the orchards prior to harvest does not vary much from year to year unless something unusual happens to the orchard as in 1934. The man labour requirements per acre for pruning trees, brush hauling, fertilizing, spraying, mowing, mulching and propping averaged 65.0 hours in 1932, 67.0 hours in 1933 and 58.0 hours in 1934. Man labour requirements for harvesting are closely related to the size of crop. In 1932, it required 69.0 man hours for picking and hauling an average yield of 81.6 barrels to the acre, 63.6 hours in 1933 with an average yield of 67.9 barrels and 30.8 hours in 1934 with an average yield of 32.6 barrels. The rate per man per day for picking is from 10 to 12 barrels and for grading by hand and packing from 12 to 15 barrels.

## FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1934

W. F. Chown[1]

Agricultural co-operation in Canada for the year 1934 is summarized in the accompanying tables. During 1935, the Agricultural Economics Branch received returns from 697 farmers' business organizations that were active during 1934. This was an increase of 7 over the previous year. Quebec, Ontario and Saskatchewan returns were received chiefly through provincial officials. In the other provinces, questionnaires were mailed direct from Ottawa. The majority of the organizations included have been incorporated under provincial co-operative acts.

The 697 organizations had 2,604 branches which combined make a total of 3,301 places of business engaged in the marketing of farm products and the purchase of supplies for farmers. Shareholders and members financially interested numbered 341,020 and patrons were estimated to number 378,730. These organizations range in size from the small club serving local needs to the large association with a Dominion-wide field.

Total assets, after deducting provision for bad debts and depreciation, amounted to $105,183,565 of which the book value of plant and equipment was $38,850,488. The members equity amounted to $49,876,894, consisting of paid-up share capital $8,933,425, and reserves and surplus $40,943,469. Total assets had increased by $800,000, general liabilities had decreased by $700,000, resulting in an increase in net worth of $1,500,000 over the previous year. This indicates a healthy position, on the whole, for those reporting.

Sales of farm products amounted to $120,853,560, sales of supplies $9,241,755, and other revenue $289,576, or a total business of $130,384,891. The total volume of business decreased by $6,000,000 from the previous year. This was the result of a decrease in the value of farm products marketed amounting to $8,000,000 and an increase in the value of supplies sold amounting to $2,000,000. The 1933 grain crop was considerably smaller than that of the preceding year and though the price realized was slightly higher, the decrease in quantity handled accounts for practically all of this reduction.

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[1] Accountant Examiner, Agricultural Economics Branch.

***Marketing.***—Available records indicate that the most important early activity of farmers in the field of co-operation in Canada was directed toward the marketing of farm products. In comparing volume of business, marketing associations transacted twenty times the volume of business handled by purchasing agencies. Membership in the co-operative marketing associations was reported to be 312,519 persons compared with 27,328 members in purchasing organizations.

Within the marketing group the grain and seed co-operatives which include the wheat pools of Western Canada have the largest membership and investment, and exceed all other commodity groups in volume of business, which was estimated at $82,803,629 for the year under review. A membership of 170,081 grain growers contributed to this business through 2,137 co-operative marketing agencies. Mainly through deductions from the selling price of their grain, these members have invested a sum of $37,114,643 in their business and in addition have paid up $3,350,952 in share capital. Combined assets total $88,298,067.

One hundred and fifteen dairy co-operatives with 122 depots in Canada reported a membership of 35,034 with assets valued at $4,179,513. Paid-up share capital amounted to $1,828,967 with reserves of $723,675. Sales of dairy products totalled $8,479,466 for the year under review.

The records for 53 live-stock shipping and marketing associations showed a combined membership of 35,314. Financing of these associations has been mainly by membership fees and commissions. Assets were comparatively low, value of plant and equipment amounted to $616,292. The value of live stock marketed was $7,431,276. The live-stock co-operatives undertake very little processing of their product. Their main activity has been the assembling of live stock in cars at producing points for shipment to central markets.

A large part of the fruit and vegetable crop was marketed through 104 co-operative agencies with a combined membership of 9,307 fruit growers. Assets for all companies totalled $3,860,115; reserves and surplus amounted to $1,009,767. Sales of fruits and vegetables during the year amounted to $6,382,915 which, together with supplies and other revenue, gave a total business of $7,809,574.

Poultry producers have organized in each of the provinces to sell their products co-operatively. There were 24 associations with 247 places of business which reported a membership of 32,851 members. Assets amounted to $444,139 with reserves of $196,792. Sales for the year amounted to $2,068,402.

Practically all the wool marketed co-operatively in Canada is handled by the Canadian Co-operative Wool Growers Ltd. The company operates in each province through the medium of 18 sheep-breeders' and wool-growers' associations. This co-operative, stores, grades and markets the wool received from its 7,100 patrons. In addition it carries on advertising and educational work and handles materials and supplies for its members. The quantity of wool handled by the co-operative during the year amounted to 5,076,100 pounds.

In Ontario and Quebec, the honey producers are organized co-operatively with a combined membership of approximately 1,800 members. Two tobacco co-operatives in Ontario, and three in the province of Quebec reported a total membership of 842 and sales of approximately one and a quarter million dollars for 1934. The Producteurs de Sucre et Sirop d'Erable de Québec, with a membership of 1,982, is organized on a co-operative basis. During the year under review, maple products marketed by this association amounted to $293,322.

***Purchasing.***—Three hundred and thirty-three associations organized for the purpose of purchasing farm supplies and merchandise on the co-operative plan reported on their activities during 1934. These consumer associations, of which nearly one-half are established in the province of Saskatchewan, had a combined membership of 27,328. The sales value of supplies handled during the year, by associations organized exclusively for the handling of supplies, amounted to $5,198,825. In five of the provinces co-operative wholesale buying societies purchase goods for their shareholder associations.

For further information see accompanying tables.

### FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1934. PROVINCIAL GROUPING

| — | No. of associ-ations | No. of places of business | No. of share-holders or members | No. of patrons | Total assets | Value of plant | General liabilities | Paid-up share capital | Reserves and surplus | Sales of farm products | Sales of supplies | Total business including other revenues |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | $ | $ | $ | $ | $ | $ | $ | $ |
| British Columbia | 69 | 83 | 12,817 | 14,405 | 3,812,828 | 1,290,548 | 1,169,538 | 1,751,905 | 891,385 | 7,252,916 | 1,477,146 | 8,765,292 |
| Alberta | 47 | 499 | 64,223 | 71,604 | 22,756,428 | 7,128,876 | 12,098,120 | 323,297 | 10,335,011 | 20,730,304 | 520,996 | 21,266,120 |
| Saskatchewan | 186 | 1,360 | 120,914 | 131,914 | 50,884,123 | 17,333,055 | 24,956,470 | 989,409 | 24,938,244 | 45,982,323 | 1,814,032 | 47,806,223 |
| Manitoba | 47 | 389 | 45,751 | 45,992 | 3,803,138 | 2,268,072 | 3,264,185 | 292,346 | 246,607 | 8,402,101 | 866,909 | 9,284,882 |
| Ontario | 117 | 130 | 33,729 | 41,677 | 3,148,741 | 1,393,991 | 1,261,859 | 1,110,279 | 776,603 | 11,446,004 | 1,389,173 | 12,916,565 |
| Quebec | 136 | 136 | 16,125 | 16,125 | 4,125,539 | 1,779,429 | 2,669,449 | 693,506 | 762,584 | 8,210,858 | 221,540 | 8,525,197 |
| New Brunswick | 21 | 60 | 3,577 | 4,581 | 274,635 | 67,152 | 97,801 | 71,280 | 105,554 | 420,132 | 452,267 | 873,063 |
| Nova Scotia | 55 | 87 | 5,356 | 8,401 | 1,656,160 | 675,746 | 975,052 | 405,329 | 275,779 | 1,439,526 | 885,934 | 2,340,732 |
| Prince Edward Island | 14 | 88 | 8,415 | 8,931 | 130,727 | 45,634 | 118,902 | 13,320 | −1,495 | 813,587 | 152,154 | 966,716 |
| Interprovincial | 5 | 469 | 30,113 | 35,100 | 14,591,246 | 6,867,985 | 8,695,295 | 3,282,754 | 2,613,197 | 16,155,809 | 1,461,604 | 17,640,101 |
| Total | 697 | 3,301 | 341,020 | 378,730 | 105,183,565 | 38,850,488 | 55,306,671 | 8,933,425 | 40,943,469 | 120,853,560 | 9,241,755 | 130,384,891 |

### FARMERS' BUSINESS ORGANIZATIONS IN CANADA, 1934. COMMODITY GROUPING

| — | No. of associ-ations | No. of places of business | No. of share-holders or members | No. of patrons | Total assets | Value of plant | General liabilities | Paid-up share capital | Reserves and surplus | Sales of farm products | Sales of supplies | Total business including other revenues |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Marketing— | | | | | | | | | | | | |
| Dairy products | 115 | 122 | 35,034 | 54,243 | 4,179,513 | 2,070,396 | 1,626,871 | 1,828,967 | 723,675 | 8,479,466 | 271,543 | 8,780,830 |
| Fruits and vegetables | 104 | 118 | 9,307 | 10,865 | 3,860,115 | 1,755,010 | 1,955,273 | 895,075 | 1,009,767 | 6,382,915 | 1,380,418 | 7,809,574 |
| Grain and seed | 30 | 2,137 | 170,081 | 170,029 | 88,298,067 | 32,343,910 | 47,832,472 | 3,350,952 | 37,114,643 | 81,284,345 | 1,504,017 | 82,803,629 |
| Live stock | 53 | 275 | 35,314 | 47,606 | 982,445 | 616,292 | 240,393 | 683,102 | 58,950 | 7,431,276 | 263,478 | 7,749,583 |
| Poultry | 24 | 247 | 32,851 | 22,752 | 444,139 | 94,396 | 192,653 | 54,694 | 196,792 | 2,068,402 | 16,202 | 2,098,945 |
| Honey | 2 | 2 | 1,818 | 519 | 148,846 | 7,485 | 107,806 | 35,324 | 5,716 | 219,592 | 17,882 | 238,267 |
| Maple sugar | 1 | 1 | 1,982 | 1,982 | 305,132 | 228,592 | 180,369 | 56,905 | 67,858 | 293,322 | — | 293,322 |
| Tobacco | 5 | 5 | 842 | 692 | 443,117 | 105,180 | 97,850 | 72,721 | 272,546 | 1,284,063 | — | 1,285,086 |
| Wool | 1 | 19 | 2,104 | 7,100 | 287,317 | 76,890 | 30,532 | 116,240 | 140,545 | 594,346 | 76,652 | 693,686 |
| Miscellaneous | 5 | 16 | 23,186 | 23,186 | 3,077,935 | 1,034,542 | 2,209,641 | 635,749 | 232,545 | 12,381,382 | 512,738 | 12,962,142 |
| Total | 340 | 2,942 | 312,519 | 338,974 | 102,026,626 | 38,332,693 | 54,473,860 | 7,729,729 | 39,823,037 | 120,419,109 | 4,042,930 | 124,715,064 |
| Purchasing | 333 | 335 | 27,328 | 39,019 | 3,102,749 | 514,672 | 818,804 | 1,169,897 | 1,114,048 | 434,451 | 5,198,825 | 5,663,152 |
| Miscellaneous | 24 | 24 | 1,173 | 737 | 54,190 | 3,123 | 14,007 | 33,799 | 6,384 | | | 6,675 |
| Total for Canada | 697 | 3,301 | 341,020 | 378,730 | 105,183,565 | 38,850,488 | 55,306,671 | 8,933,425 | 40,943,469 | 120,853,560 | 9,241,755 | 130,384,891 |

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# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

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## THE ECONOMIC SITUATION

Prices during the first eight months of 1936 recorded moderate gains over the same period of 1935, according to data compiled by the Dominion Bureau of Statistics. The index of wholesale prices of all commodities increased from 72.0 for the first eight months of 1935 to 73.1 for the same period of 1936. The index number of farm products amounted to 62.5 and 66.4 respectively for the two periods. Retail prices and cost of services increased from an index of 78.8 for the 1935 period to 80.4 for the 1936 period.

The index of farm products showed a considerable increase during July and August, rising nearly two points in the former month and seven points during the latter. The August figure was 73.3, showing a gain over the same month a year ago of 11.3. The disparity between the purchasing power of the farmer and the cost of retail goods and services he requires, as commented upon in the August issue of the ANNALIST, continues to show improvement with the August index of farm products at 73.3 and that of retail prices and cost of services at 81.2.

***Physical Volume of Business.***—Business activity remained steady. A slight increase occurred during June, but this was partially lost in July; in which month the index of physical volume of business stood at 110.0. Industrial production gained exactly one point in June over the index for May, but half of this gain was lost in July; mineral production and manufacturing showed slight declines while construction improved. Increased activity in the marketing of grains (with the exception of Barley and Flax) and in livestock marketing (excluding sheep) increased the agricultural marketings index from 73.9 in June, to 103.9 in July. Cold storage holdings which showed a considerable gain in June, decreased to the lowest index for the year, 137.5 in July. The general index of the physical volume of business for the first six months of the year showed an increase of 6.0 per cent over the first half of the previous year. The production figures for August were not available when the above was written.

***Wholesale Prices.***—The gradual advance in the general wholesale commodity price level which began early in June continued throughout July, and the index number of wholesale prices rose from 72.8 for the week ended 3rd July to 75.4 for the week of 31st July. Major gains were shown for grains, livestock, eggs and copper. A setback occurred during the second week of August owing largely to the reaction of grain prices on the general wholesale level, but increased demand for wheat toward the end of the month helped to make up much of the loss and carried the index back to 76.2 for the month. Livestock, meats, eggs and dairy products were mostly firm during August, as was also raw wool.

***Retail Prices.***—The acceleration in the rate of increase in food prices, which showed in the slightly increased index for July, continued during August and the index rose to 81.2. The food group rose from 72.6 in July to 74.7 in August; the

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## ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82 8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| Jan. | 71.5 | 61.4 | 55.7 | 71.0 | 78.8 | 97.5 | 97.8 | 30.6 | 143.7 |
| Feb. | 71.9 | 62.0 | 55.7 | 72.6 | 78.9 | 100.6 | 101.1 | 62.2 | 141.2 |
| Mar. | 72.0 | 62.7 | 56.4 | 73.3 | 78.8 | 94.2 | 93.3 | 65.4 | 143.2 |
| Apr. | 72.5 | 64.7 | 59.8 | 72.9 | 78.6 | 98.3 | 97.7 | 91.8 | 135.8 |
| May | 72.3 | 64.1 | 58.0 | 74.4 | 78.6 | 103.2 | 104.4 | 86.3 | 123.2 |
| June | 71.5 | 61.4 | 55.1 | 72.0 | 78.8 | 99.2 | 99.7 | 106.1 | 125.0 |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.4 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.6 | 106.2 | 108.8 | 34.0 | 133.4 |
| 1936 | | | | | | | | | |
| Jan. | 72.9 | 65.9 | 59.0 | 77.5 | 80.7 | 105.2 | 107.0 | 39.8 | 143.4 |
| Feb. | 72.5 | 66.0 | 58.9 | 77.8 | 80.4 | 104.9 | 104.9 | 62.7 | 150.3 |
| Mar. | 72.4 | 65.5 | 59.2 | 76.0 | 80.5 | 103.3 | 104.1 | 89.5 | 149.5 |
| Apr. | 72.2 | 65.0 | 59.8 | 73.8 | 79.8 | 108.8 | 109.2 | 115.8 | 149.3 |
| May | 71.8 | 64.8 | 59.9 | 73.0 | 80.1 | 109.7 | 110.6 | 110.0 | 144.5 |
| June | 72.3 | 64.5 | 60.8 | 70.7 | 80.0 | 110·3 | 111.6 | 73.9 | 171.9 |
| July | 74.4 | 66.3 | 63.2 | 71.6 | 80.5 | 110.0 | 111.1 | 103.9 | 137.5 |
| Aug. | 76.2 | 73.3 | 74.1 | 71.9 | 81.2 | 113.2 | 115.2 | 216.9 | 129.7 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.

2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p 52, and Monthly Mimeographs 1934 and 1935.

3. Wholesale prices of grains, fruits and vegetables.

4. Wholesale prices of Animals and Animal Products.

5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.

Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.

6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

sharpest rise since August, 1933, when prices first commenced to show definite signs of recovery. Higher prices were reported for a wide range of foods including meats, eggs, butter, cheese, bread, flour, potatoes and canned vegetables. No material changes occurred in other retail index groups.

***Prices of Farm Products.***—North American wheat markets were dominated by crop condition news. Toward the end of July, as it became evident that good supplies were lessening, export demand for Canadian wheat broadened extensively. Prices rose sharply and by the 30th, No. 1 Manitoba Northern cash wheat had topped the dollar mark. Quotations the following day reached $1.03⅜ per bushel, the highest level since June, 1930. This marked a gain of 19¼ cents per bushel during the month. The advance continued during the first week of August and on the 5th, No. 1 Manitoba Northern cash wheat at Winnipeg closed at $1.10¼ in contrast to the low point from which the recent rise began of 73⅝ cents per bushel on 26th May, 1936. Prices declined somewhat during the remainder of the month, with a temporary halt between the 11th and 18th, and the price on 31st August was 96⅛ cents per bushel. Reports of less favourable moisture conditions in the Argentine created an active demand toward the second week of September and prices closed on the eleventh at $1.02⅜. The overseas clearances and imports into the United States of wheat, from 1st August to 4th September, 1936, totalled 25 million bushels, compared with 13 million bushels for the same period a year ago.

A general decline occurred in the prices of livestock during the first part of August; but with improved pasture conditions, weekly receipts moderated and prices stiffened. Demand was sufficient to take care of offerings. Early August quotations for hogs strengthened owing to light receipts, but later, increased offerings of poorly finished grades led to general softening of prices. The butter market continued firm, and despite minor declines during the last week of August, closing prices were generally over 1 cent higher than the opening prices for the month. General strength characterized the egg markets, though Montreal and Toronto prices eased slightly during the middle of the month. August average prices were 4 cents higher per dozen for Grade "A" large. Cold storage holdings of eggs on 1st August were reported to be one per cent less than the previous month.

***Prices in United Kingdom.***—The index number of the prices of agricultural produce (1911–13 = 100) was 119 for August, as compared with 117 for July and 113 for August, 1935. If allowance is made for payments under the Wheat Act, 1932, and the Cattle Industry Act, 1934, the August index would be 124 and the previous month 121. Wheat, barley, oats, fat pigs, eggs, butter and hay during August showed an increase over the July prices, while values for fat cattle and potatoes showed a seasonal fall.

***The Situation in the United States.***—The retail food price index (1910–14 base = 100) of the Department of Labour for July was 137—a gain of 6 points over the same month a year ago. The wholesale price index stood at 118 in July compared with 116 for July, 1935.

## PRIVY COUNCIL FINDS AUSTRALIA'S DRIED FRUITS ACT UNCONSTITUTIONAL

Regulated Marketing in Australia received a severe blow when, on July 17th, the Judicial Committee of the Privy Council allowed the appeal of the plaintiff in the case of JAMES V. COMMONWEALTH OF AUSTRALIA AND OTHERS. The validity of the Dried Fruits Act, 1928–35, was at issue and in finding the Act unconstitutional the Privy Council reversed a decision handed down by the Supreme Court of Australia some months ago.

Among the provisions of the Dried Fruits Act was one to the effect that the owner of dried fruits might not ship the product or deliver it for shipment in inter-State trade unless duly licensed. It was a condition of the granting of a licence that the licensee should export a certain percentage of his product. Mr. F. A. James, the plaintiff, had refused to apply for a licence and a shipment of his fruit had therefore been seized.

The Counsel for the plaintiff argued that under the constitution of Australia, the Commonwealth could not restrict in any way the movement of goods as between one State and another. The decision of the Judicial Committee supported this contention.

It is interesting to note that the Act which was found invalid applied to inter-State trade only. In Canada, the power delegated to the Dominion Parliament under the B.N.A. Act to legislate with respect to the regulation of interprovincial trade has gone unquestioned, and the validity of the Dominion statutes respecting trade has been challenged mainly on the grounds of concomitant regulation of transactions within a province.

In addition to upsetting Australia's method of regulating the marketing of dried fruits, the Privy Council's decision will seriously affect her program with respect to other products, notably butter and wheat. A conference of the Premiers of the Australian States was convened late in August to discuss the situation. One solution, of course, would be a constitutional amendment which may be secured in Australia by a majority of votes in a majority of States.

## MARKETING LEGISLATION IN NEW ZEALAND

C. V. PARKER*

New Zealand was one of the first countries to establish the post-war commodity type of legislation for the marketing of agricultural products. A meat export Control Board was established by Act of Parliament in 1922. This was followed by the Dairy-Export Control Act in 1923, the Fruit-Control Act 1924, and the Honey-Export Control Act 1924. It is not the purpose here to give the reasons behind the development of this legislation, but merely to describe what has taken place in New Zealand in the way of marketing legislation, particularly during the last year or two. It is, of course, a well known fact that similar types of legislation exist in most countries of the world at the present time. Initial development, however, in most cases, has taken place at a later date than in New Zealand.

At least three stages in the development of the marketing legislation in New Zealand may be noted. From 1922 to 1934 each commodity affected was regulated under a separate Act by a Board established under the Act. For the most part these Boards were concerned with regulating exports. In 1934, the Agricultural (Emergency Powers) Act was passed providing for an Executive Commission of Agriculture with power to regulate marketing and production of agricultural products. This Commission was given power to take over all or any powers of the several commodity boards, the chief reason being to co-ordinate the work of the separate boards. Thus the feature of centralization was added to the legislative set-up, and greater scope was given to the regulation of marketing of domestic supplies. The latest development has been the passing of the Primary Products Marketing Act, 1936. This Act establishes a new government department known as the Primary Products Marketing Department which will take over the powers vested in the Executive Commission of Agriculture. The outstanding feature of the new Act, however, is the commencement in August, 1936, of government guaranteed prices for dairy products, and the provision of guaranteeing other primary product prices at a later date. Since the establishment of marketing legislation in 1922, there has been a tendency for greater governmental control. This tendency has been more apparent in the Acts passed in 1934 and 1936.

***The Commodity Scheme.***—Before schemes were made operative for the several commodities in New Zealand a vote of the producers was taken and at least a 60 per cent majority was necessary before regulations could be put into effect. Producers elected the majority of the members on the several boards which were established, the Government being represented by one or two members on each Board.

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Commodity Boards have mainly confined their activities to the regulation of exports of commodities. The Fruit Control Act provided for domestic regulation of supplies, but as late as 1933 no district had such regulations in effect.

Briefly, the powers exercised by these Boards are: (1) Grading, handling, exporting and storage. (2) Shipment on such terms and quantities as they think fit. (3) Sale and disposal on such terms as they think fit. (4) Insurance against loss in storage and transit. (5) Exhibiting and advertising, and (6) experimenting to improve quality. The Boards also have power to make levies on exports to finance the operation of schemes.

Not all the powers conferred on Boards have been exercised by every Board. In some cases limited control has been exercised. Under limited control, Boards do not take possession of the products, but under absolute control they do and fix prices if they so desire. The Meat-Board has never assumed absolute control. The Dairy Board tried absolute control in 1926, with unsatisfactory results, while the Honey Board from 1923 to 1933 exercised limited control and then embarked on an absolute control trial. The Fruit Board obtained government aid in 1927 by way of a guarantee of minimum prices for apples. Until 1931, the guarantee provided little direct benefit to the exporters in the form of a cash return but in 1931–32, £19,171 were paid by the Government owing to a serious drop in fruit prices on the Continent. In 1934–35 the Fruit Board was empowered to establish a "Fruit Export Guarantee Fund" out of a levy, in order to enable the Board to make advances to producers at a maximum rate per case of fruit exported; the rate to be fixed by the Board.

Two Acts have been passed in the past two or three years setting up new commodity Boards. These are the New Zealand Poultry-runs Registration Act, 1933, and the Tobacco Growing Industry Act, 1935. The Tobacco Act provides for licensing of growers and the issuing of a special warrant before sales for manufacture or export can be made. Sale of tobacco at home and abroad is to be promoted and action in relation to imports of raw tobacco may be taken.

***The Agricultural (Emergency Powers) Act, 1934.***—The Dairy Board has taken a very active part in the development of marketing legislation in New Zealand. The Agricultural (Emergency Powers) Act, 1934, was the result of an investigation into matters affecting the dairy industry. Under this Act an Executive Commission of Agriculture was established with authority to co-ordinate the work of the several commodity Boards and to take over powers conferred on Boards by special Acts after consultation between the Boards and the Commission. Parts 2 and 3 of the Emergency Powers Act dealt specifically with the dairy industry. The Dairy Export Control Act, 1923, was changed in name to the Dairy Produce Act and a Board with an entirely new personnel was given powers to control butter and cheese operations within the country as well as export trade. The new Board met for the first time in April, 1935. Re-organization of the Dairy marketing Board set-up was still incomplete when the Labour Government was elected in the fall of 1935. The New Government pledged itself to a program of guaranteed prices with particular reference to dairy produce. Legislation was passed in the 1936 session of Parliament to implement these pledges.

***Primary Products Marketing Act, 1936.***—The Primary Products Marketing Act became effective on August 1, 1936. The purpose of the legislation is to protect primary producers from violent price fluctuations, and the method of accomplishing this is to have the government acquire ownership of products at fixed prices. For products intended for consumption in New Zealand the government may either acquire ownership at fixed prices or control sales and distribution. For the present the plan is only to be put into effect for dairy products and later it is intended to treat other products in a similar manner.

An entirely new Department of State, called the Primary Products Marketing Department has already been set up in New Zealand. This new Department has authority to take over all functions of the Executive Commission of agriculture.

The Department will have the power to take acquision of every primary product in accordance with the Act or any future lawful authority. It will have power to market, in New Zealand or overseas, any primary product whether acquired by the Crown or not. The Minister of the Department must approve of all contracts for the carriage by sea of any primary product intended for export. Another important function of the new Department will be to enter into negotiations with a view to making agreements to promote reciprocal trade.

Dairy produce is to become the property of the Crown as soon as it is placed, with the concurrence of the Department, on board ship for export. The Minister may determine by notice in the Gazette that ownership shall pass to the Crown at any specified time prior to shipment. This may be necessary if stocks are to be stored in New Zealand for any long period. Producers will be paid for dairy produce as soon as it becomes the property of the Crown. A deduction will be made for the New Zealand Dairy Board before payment is made.

Prices shall be fixed by order-in-council from time to time. Prices for export dairy produce shipped on or before July 31, 1937, shall be fixed after taking into consideration the prices received during a period of from eight to ten years immediately prior to July 31, 1935. After July 31, 1937, prices shall be fixed in accordance with prices fixed before that date and consideration will be given to the following matters:—

*(a)* The necessity in the public interest of maintaining the stability and efficiency of the dairy industry.

*(b)* The costs involved in the efficient production of dairy produce.

*(c)* The general standard of living of persons engaged in the dairy industry in comparison with the general standard of living throughout New Zealand.

*(d)* The estimated cost to the Department of marketing the dairy produce concerned, and also the cost of the general administration of the Act.

*(e)* Other matters deemed to be relevant.

Due regard shall be given always to fix a price that will enable any efficient producer to maintain himself and his family in a reasonable state of comfort.

## OBJECTIVES IN THE ALBERTA LAND UTILIZATION SURVEY

G. H. Craig*

An adequate knowledge of the past uses of land and organization of agriculture is the first step in re-adjusting the farming system of any region. That some change is necessary seems obvious in the very dry areas of Alberta where extensive abandonment of farms has already occurred and relief assistance has been very often necessary. The general objective of the Alberta Land Utilization Survey is to define the regions in which the acute problems of land use exist, to discover the underlying causes of difficulty, and to point out those adjustments which seem to fit best the conditions of the area. With a more detailed and more accurate knowledge of the position of the maladjustments and their nature, the problem of land policy and administration is made much simpler, and the rate of re-adjustment accelerated. Natural forces are already bringing this about but only after a long period of unsatisfactory farm and community living conditions.

Many and varied factors have been responsible for the difficulties which are at present existent in the agriculture of the province. These can be most usefully classified into three groups: first, fluctuations and wide swings in agricultural prices; second, unfamiliarity with the nature of physical and other features both fixed in nature such as soil, and of variable type such as frost, hail, wind erosion and insect pests; and third, the factor of management and changes in the techniques of farming practices due to developments in the use of machinery, credit facilities and the like. These three groups of factors are not mutually exclusive but all play their part in varying degrees as they affect the changing use of land.

The major interest of the co-operating agencies[1] in the land utilization study has been directed to the problems of the drought area where all three of the above factors have been particularly severe in their effect on farming conditions. The specialization of most farm operators in either wheat farming or range livestock production has been a source of much trouble. The prices of these two products have fluctuated as violently as any in the oscillations of the business cycle. Very high prices have encouraged the extension of wheat production into areas where only these high prices can be remunerative. At a later date, low prices have brought in their wake serious losses and consequent abandonment of much land upon which investments in buildings and other improvements had been made. In many cases too, a series of abnormally wet years has encouraged the purchase of land at high prices in areas where the average precipitation is not sufficient to return reasonable revenues even with normal price levels. The peculiar nature of wheat production, and periodic high wages of labour has encouraged the purchase on credit of a great deal of large scale machinery which has not always repaid the operator. Especially is this true when low prices and low yields have provided little surplus for the fixed costs in interest and depreciation on equipment.

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The speed with which settlement occurred in many parts of the south has also occasioned much difficulty. At the time of first settlement land had equal and only a nominal value, and very few settlers were acquainted with the great variations in the productivity of the individual soil classes. Most of them considered the lighter soils preferable, and as a consequence the fine sandy soils were settled first and produced very well for a few years. However, as successive crops were harvested and periods of drought, insect pestilence and low prices occurred, these lighter lands became submarginal. They were early bought and sold at prices often higher than the heavier ones, but the changing productivity brought about a readjustment which now has left the sale value of these lands very low, and that of the heavier lands much higher. This changing productivity and changing land value has in itself been a major cause of variation in farming success between areas of different soil productivity. Many farmers are left with losses on the original purchase price of the land, while others who took up the heavier soils and the more fortunately localted parcels, have now received large increments through the increase in the value of their land.

It is to make clearer the geographical definition of the problem areas, and to clarify the nature of the problems that is the major objective in the study. The means used to discover the present uses of land and some history of past uses has been chiefly through the survey method. Sample districts are being studied with a view to determining the adjustments in farming practices and land use which will best fit the major soil and precipitation belts in the southern part of the province. During the summer of 1935 the area surrounding the towns of Vulcan and Lomond was chosen as useful for the purpose. In the course of the field work detailed schedules were obtained from about 500 farmers; information was collected regarding taxation, local government services, and relief from the municipal offices and other sources. This information is useful as a guide to determining the agricultural variations between a limited number of physical features and also between certain farm management practices as they apply in one region. During 1936 the project has been carried into another area which is distinctly within the drought region and which has been struck with extremely unproductive years since 1928. This latter is the Sounding Creek Area east of Hanna. Subsequently it is hoped to cover a large part of the area which has been subject to prolonged periods of drought and low yields. The data will be useful eventually as a basis for land classification defining the limits of the economic use of land for its most suitable purposes.

The final objective is therefore to place economic data on the soil map and maps of other physical features, in order to determine, insofar as possible, the most promising uses of land. This can only be done after an accurate analysis and inventory of the present and past conditions of land use has been made.

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[1] The Prairie Farms Rehabilitation administration and the Economics Branch, Dominion Department of Agriculture, the University of Alberta, and the provincial Department of Agriculture.

## SOME DATA ON THE CONSUMPTION OF MAPLE PRODUCTS

G. P. BOUCHER*

During the summer of 1935, the Economics Branch of the Dominion Department of Agriculture, in co-operation with the Department of Agriculture of the Province of Quebec, undertook a survey relating to the consumption of milk and cheese in the City of Quebec. While this survey was under way, a request was received to also obtain information on the consumption of maple sugar and maple syrup. Information relating to the consumption of maple products was obtained from 303 families. The analysis of the data obtained from these families shows that the per capita consumption of maple sugar was 2.77 pounds and the per capita consumption of maple syrup 0.54 gallons.

There appears to be some relationship between family income and the number of families consuming maple products (Table 1). The group of families using the largest proportion of maple sugar and maple syrup were those with a family income of $2,000 to $4,000 per annum.

TABLE 1.—PROPORTION OF FAMILIES USING MAPLE SUGAR AND MAPLE SYRUP AS RELATED TO FAMILY INCOME, 303 FAMILIES IN THE CITY OF QUEBEC, 1935

| Family income | Number of families | Per cent consuming sugar | Per cent consuming syrup |
|---|---|---|---|
| On Relief | 11 | 64 | 55 |
| Less than $1,000 | 102 | 49 | 56 |
| $1,000 to $2,000 | 107 | 73 | 79 |
| $2,000 to $4,000 | 59 | 88 | 95 |
| $4,000 and over | 24 | 83 | 88 |
| Total | 303 | | |
| Average | | 68 | 74 |

A direct relationship appears to exist between family income and per capita as well as per family consumption of maple products (Table 2). The consumption by the two lowest income groups is smaller than the average consumption for all groups.

TABLE 2.—RELATION BETWEEN FAMILY INCOME AND CONSUMPTION OF MAPLE SUGAR AND MAPLE SYRUP, 303 FAMILIES IN THE CITY OF QUEBEC, 1935

| Family income | No. of families | No. of adults | No. of children | Total family | Consumption sugar | | Consumption syrup | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Per capita | Per family | Per capita | Per family |
| | | | | | lbs. | lbs. | gals. | gals. |
| On Relief | 11 | 44 | 16 | 60 | 0.70 | 3.81 | 0.15 | 0.81 |
| Less than $1,000 | 102 | 253 | 123 | 376 | 1.68 | 6.20 | 0.45 | 1.65 |
| $1,000 to $2,000 | 107 | 387 | 257 | 644 | 2.58 | 15.52 | 0.52 | 3.14 |
| $2,000 to $4,000 | 59 | 226 | 135 | 361 | 3.54 | 21.67 | 0.66 | 4.05 |
| $4,000 and over | 24 | 91 | 69 | 160 | 5.13 | 34.21 | 0.67 | 4.46 |
| Total | 303 | 1,001 | 600 | 1,601 | | | | |
| Average | | | | | 2.77 | 14.64 | 0.54 | 2.84 |

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The highest consumption of maple sugar is found in the professional group and the lowest in the two labour (skilled and unskilled) and the relief groups. (Table 3.) The highest consumption of maple syrup is found in the farmer and salesman groups and the lowest in the two labour (skilled and unskilled) and the relief groups. The high consumption of maple syrup by the farmer group is, no doubt, to some extent due to the fact that the farmers who constitute this group are themselves producers of maple products.

TABLE 3.—RELATION BETWEEN OCCUPATION AND CONSUMPTION OF MAPLE SUGAR AND MAPLE SYRUP BY 303 FAMILIES IN THE CITY OF QUEBEC, 1935

| Occupation | No. of families | No. of adults | No. of children | Total family | Consumption sugar | | Consumption syrup | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Per capita | Per family | Per capita | Per family |
| | | | | | lbs. | lbs. | gals. | gals. |
| Professional | 37 | 144 | 66 | 210 | 7.96 | 30.18 | 0.67 | 3.81 |
| Salesman | 27 | 96 | 58 | 154 | 3.61 | 20.62 | 0.77 | 4.40 |
| Clerical Workers | 48 | 181 | 127 | 308 | 3.20 | 20.54 | 0.64 | 4.29 |
| Large Business Executive | 20 | 80 | 60 | 140 | 3.02 | 21.15 | 0.37 | 2.50 |
| Small Business Executive | 14 | 62 | 44 | 106 | 2.66 | 20.14 | 0.49 | 3.71 |
| Skilled Labour | 89 | 308 | 204 | 512 | 1.58 | 9.31 | 0.32 | 1.85 |
| Farmer | 9 | 53 | 23 | 76 | 1.13 | 9.55 | 1.00 | 8.44 |
| Unskilled labour | 48 | 179 | 80 | 259 | 0.94 | 5.12 | 0.22 | 1.18 |
| On Relief | 11 | 44 | 16 | 60 | 0.70 | 14.64 | 0.15 | 2.84 |

OTTAWA, September 16, 1936.

## ASSISTANCE TO FARMERS IN DRIED-OUT AREAS OF PRAIRIE PROVINCES

Measures taken to assist farmers in dried-out areas in Alberta, Saskatchewan and Manitoba who are unable to winter all of their live stock holdings as summarized by Mr. R. S. Hamer, Assistant Commissioner of the Live Stock Branch, are as follows:—

1. The Dominion and Provincial Governments are co-operating with the railway companies in the delivery, free of freight charges, of lower grade cattle from the prescribed drought areas direct to packing plants in Western Canada, to be processed as boneless beef or as tankage. The two Governments are guaranteeing to producers a price of one cent per pound on all such cattle.

2. In order to assist in the movement of feeder cattle and feeder lambs from drought areas to areas in other parts of the Dominion where there is sufficient feed to finish them for the market, the Dominion Department of Agriculture will refund one-half of the freight charges on carload shipments purchased at country points within the prescribed areas. This assistance will be allowed only on shipments made between August 1st and November 30th. To qualify for the refund, the stock must be retained by the purchaser for at least three months in the case of cattle and two months in the case of lambs.

3. The Dominion and Provincial Governments are co-operating with the railway companies in absorbing all freight charges on feed which has to be shipped in to carry the remaining stock on individual farms within the drought areas, or in transporting such stock to outside areas in the prairie provinces where there is feed and in transporting such stock back to its original location next spring.

## SURVEY RELATING TO THE CONSUMPTION OF MEATS IN CANADIAN CITIES

The per capita consumption of lamb in Canada is considerably lower than that in the United Kingdom and other Empire countries. The consumption of all meats in Canada is lower than it is in Australia and New Zealand. The opinion prevails that there is considerable variation in different parts of Canada in the consumption of lamb, veal, beef, bacon and other meats and it is believed also that the consumption of various meats differs in families of different national origins and with different family incomes. Few actual facts are, however, available on the variations in the consumption of meat in individual families in different parts of Canada. Basic economic facts on consumption are essential to the most intelligent production of the kinds of meats consumers require.

With the object of obtaining more accurate information than is now available on the consumption of meats, particularly the consumption of lamb and veal, a survey is now under way in the Cities of Saint John, N.B., and Montreal, and a similar survey will shortly be undertaken in the City of Vancouver. The Provincial Departments of Agriculture in the Provinces concerned are co-operating with the Economics Branch of the Dominion Department of Agriculture in these studies. Householders will be interviewed by young college graduates, most of whom have training in household science, and questionnaires relating to the use of lamb, veal and other meats, as well as the consumption of fish and eggs in the various homes will be obtained. Householders will be asked to state the quantity of different meats, fish and eggs used per month. Questions will also be asked as to the frequency of purchase of different meat cuts, the amounts purchased at one time, the foods which are substituted for meats, the opinion of householders as to the value of different meats, the number of times per day different meats are served and, where the consumption of any meat is low, the reasons why more of such meat is not purchased. The facts obtained will be related to the size of the family, the nationality and the occupation of the head of the family and to the family income.

An opportunity will also be given to each one who is interviewed to obtain information in the form of charts and bulletins of beef and lamb cuts and how to prepare them for consumption in the home.

In order to obtain some general information on the relation of diet and family income to health, the questionnaire blank also contains questions on the prevalence of colds and other diseases in the family, the health of the teeth and eyes of the children and, where possible, information will also be obtained regarding the height, weight and grade in school of the children.

It is expected that from 500 to 1,000 blanks will be completed in each of the three cities concerned. The survey will be conducted in such a way that a representative sample of the families in the various income groups in each city will be obtained.

## COST OF MILK PRODUCTION STUDY

The four milk commodity producers' associations of Ontario along with the Economics and Dairy Husbandry Departments of the Ontario Agricultural College and the Economics Branch of the Dominion Department of Agriculture, Ottawa, have co-operatively initiated and are now actively engaged in a study of the cost of milk production. A dairy enterprise account book has been prepared and by means of a series of meetings throughout Ontario 1,516 milk producers have been enrolled in the project.

The accompanying alphabetical list of the counties of Ontario shows the number of farmers registered within each county and also designates the type of market to which the milk producers of the several counties ship their milk.

Supervision of the technical phases of the project is the responsibility of the Economics Branch, Ottawa, assisted by the Ontario Agricultural College, Guelph.

The account year extends from July 1st, 1936, to June 30th, 1937. In order to assist milk producers who are keeping the records and to assure uniformity of method, a field staff has been provided by the Ontario Agricultural College, Guelph, and the Economics Branch, Ottawa, to periodically visit the producers who are keeping the records of production costs.

At the conclusion of the year the records will be assembled for analysis.

MILK PRODUCERS OF ONTARIO WHO HAVE REGISTERED IN THE COST OF MILK PRODUCTION PROJECT—BY COUNTIES TO SEPT. 15, 1936.

| — | Whole milk | Cheese | Concentrated milk | Cream | Total |
|---|---|---|---|---|---|
| Algoma | 6 | | | | 6 |
| Brant | 27 | | 1 | | 28 |
| Bruce | 1 | | | 1 | 2 |
| Carleton | 28 | 15 | | | 43 |
| Dundas | 2 | 16 | 31 | | 49 |
| Durham | 13 | | | | 13 |
| Elgin | 9 | 2 | 27 | 3 | 41 |
| Essex | 82 | | | 1 | 83 |
| Frontenac | 5 | 13 | 6 | 1 | 25 |
| Glengarry | 4 | 27 | | | 31 |
| Grenville | | 6 | | | 6 |
| Grey | 18 | | | 3 | 21 |
| Haldimand | 1 | | | 18 | 19 |
| Halton | 52 | | | 2 | 54 |
| Hastings | 8 | 20 | | | 28 |
| Huron | 4 | | 4 | 4 | 12 |
| Kent | 17 | | | | 17 |
| Lambton | 18 | | | 11 | 29 |
| Lanark | 3 | 14 | | 4 | 21 |
| Leeds | 4 | 40 | 16 | 1 | 61 |
| Lennox and Addington | 1 | 10 | 10 | 2 | 23 |
| Lincoln | 28 | | | | 28 |
| Middlesex | 17 | 1 | 9 | 1 | 28 |
| Muskoka | 3 | | | | 3 |
| Nipissing | 9 | | | | 9 |
| Norfolk | 10 | | 8 | 1 | 19 |
| Northumberland | 24 | 17 | | 5 | 46 |
| Ontario | 90 | | | 1 | 91 |
| Oxford | 13 | 16 | 73 | 5 | 107 |
| Parry Sound | 16 | | | | 16 |
| Peel | 37 | | | 2 | 39 |
| Perth | 9 | 2 | 11 | 2 | 24 |
| Peterboro | 19 | | 3 | 6 | 28 |
| Prescott | | 43 | 1 | | 44 |
| Prince Edward | 6 | 3 | 3 | 3 | 15 |
| Renfrew | 2 | 2 | | 12 | 16 |
| Russell | 6 | 20 | 3 | 1 | 30 |
| Simcoe | 31 | | | 8 | 39 |
| Stormont | 8 | 22 | 1 | | 31 |
| Sudbury | 7 | | | | 7 |
| Victoria | 16 | | | | 16 |
| Waterloo | 49 | | | 1 | 50 |
| Welland | 32 | | | | 32 |
| Wellington | 15 | | | 8 | 23 |
| Wentworth | 57 | | | | 57 |
| York | 103 | | | 3 | 106 |
| Total | 910 | 289 | 207 | 110 | 1,516 |

# LIFE INSURANCE CARRIED BY FARMERS IN THE LOMOND AND VULCAN DISTRICTS, ALBERTA

W. J. HANSEN*
*Assisted by* J. PROSKIE*

The following summary is taken from a study of life insurance carried by farmers in the Lomond and Vulcan Districts of Alberta. Data for the study were made available from the field sheets of an economic survey of 493 farms, conducted in 1935 by the Department of Agriculture, Province of Alberta, and the University of Alberta in co-operation with the Prairie Farm Rehabilitation Administration and the Economics Branch of the Dominion Department of Agriculture, Ottawa.

The two districts are in a semi-arid area directly north of Lethbridge and comprise about 47 townships with a total area of over a million acres. The farmers interviewed by the field enumerators in the Vulcan district occupied 31.8 per cent of the defined area; and in the Lomond area 43.8 per cent. As the number of records used in the study—493, represent 40 to 45 per cent of the total number of operators in the two districts, the conclusions drawn are representative of the whole. The chief cash crop in each district is wheat, and mixed farming is not practiced to any great extent. Both districts are served by the Canadian Pacific Railway and few farm operators are further than 15 miles from the nearest railway station. The whole area is traversed by graded dirt roads and a gravelled highway passes through the Vulcan district.

## SUMMARY

During the early years in the development of a farming area, any surplus of earnings which may accrue in good years, is likely to be absorbed in improvements to buildings, equipment and stock, in increasing the size of the farm unit, or in raising the standard of living. In a well established district, farmers may be expected to have outside investments. Life insurance policies probably constitute the most important outside resource or investment. The amount of life insurance contracted and kept in force by farmers is, therefore, an index of the degree of success that has attended farming operations.

In the Lomond district, 14 per cent of the farmers had life insurance in force in 1935, compared with 42 per cent in the Vulcan district. In the joint Lomond-Vulcan area, 27 per cent of the farmers had life insurance in force.

The percentage of farmers with completely discontinued life insurance in the Lomond district, amounted to 29 per cent, compared with 19 per cent in the Vulcan district. For the area as a whole, the total amounted to 25 per cent.

Of all the farmers in the Lomond district, 57 per cent had never contracted life insurance at any time, compared with 39 per cent in the Vulcan district. In the Lomond-Vulcan area it amounted to 48 per cent.

The percentage of farmers without life insurance at the present time varied with soil types. The highest percentage was found on the Carmangay Fine Sand and the lowest percentage on the Fine Sandy Loam in the Vulcan district. In the Lomond district the highest percentage was found on the Fine Sandy Loam and the lowest percentage on the Armade Clay Loam. The amount of life insurance carried by farmers is influenced by the soil type on which the farm is located and thus those operators on the more productive soils carried a higher percentage of insurance.

Of the farmers without life insurance at the present time in the total area, married operators constituted 77.5 per cent. Of the insurance now in force by farmers in the whole area, 80.3 per cent was held by married operators. Life insurance was predominately contracted by married operators.

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In the Lomond district, 14 per cent of the owners, 2.4 per cent of the tenants and 18.2 per cent of the owner-tenants had life insurance in force in 1935, whereas, in the Vulcan district, 39 per cent of the owners, 36.8 per cent of the tenants and 48.8 per cent of the owner-tenants had life insurance in force.

Of the farmers with public school education, Grades 1 to 4, 23.4 per cent had life insurance in force; of the group with education, Grades 5 to 8, 34.1 per cent had insurance in force; of those with education Grades 9 to 12, 36.2 per cent had insurance in force; and for the group with Agricultural School or university education, 45.0 per cent had life insurance in force.

The present mean age of all operators was 49.5 years. The mean age for operators without insurance at any time was 50.5 years, compared to 49.5 years for those with insurance completely discontinued and 47.8 years for operators with life insurance in force. At the present time, approximately 75 per cent of the farmers are without life insurance and of this number 52 per cent are above 50 years of age.

Of the farmers in the two areas with life insurance in force, 12.12 per cent were in the negative net worth group. This group included 26.27 per cent of those who had discontinued insurance and 21.65 per cent of those who had never contracted life insurance at any time. There is a greater probability that life insurance will be contracted and continued in force by those farmers who on the average have higher net worth.

The group of farmers who have a higher standard of living—as measured by cash expenditure on living expenses—tended to keep their insurance in force. The group with the lowest standard of living had no insurance at any time.

In the Lomond district, of the group with life insurance in force, 62.50 per cent possessed radios, compared with 41.77 per cent of the group with insurance completely discontinued and 29.58 per cent of the group without life insurance at any time. In the Vulcan district, of the group with life insurance in force, 72.92 per cent possessed radios, compared with 52.17 per cent of the group with life insurance completely discontinued and 40.0 per cent of the group without life insurance at any time. Similar tendencies were found with regard to other farm services, *viz.*, automobile, electric light, fire insurance, septic tank and telephone. The farmers who were able to keep up farm services were also able to keep up life insurance policies.

The main cash income of the farmers in the Lomond-Vulcan area has been the sale of wheat. The purchasing power of the price of wheat from 1920 to 1935 in terms of premiums on $1,000 of straight life insurance taken at the age of 33 years, has varied from the low of 13 bushels in 1920 to the high of 61 bushels in 1933. These fluctuations and low level of the purchasing power of the farmers' chief source of income had made adjustments of financial obligations necessary, caused cancellations of insurance and impeded farmers from contracting life insurance during the last few years.

***Total Volume of Insurance.***—During the period 1896 to 1935, the amount of insurance contracted by the operators included in the study amounted to $911,700. Of this amount, 46.93 per cent was discontinued. The peak for the net amount in force, $639,100 was reached in the period 1926 to 1930. The peak for the net amount of life insurance in force in Canada was reached in 1931. In the period 1931 to 1935, the amount of life insurance contracted by farmers was 15.5 per cent of the aggregate amount for the period 1926 to 1930.

In the Lomond district, 61.1 per cent of the amount contracted was discontinued, in comparison with 38.26 per cent in the Vulcan district. The higher percentage of discontinuance in the Lomond district is accounted for by the fact that over the years, the Lomond district has been less productive than the Vulcan district.

***Relation to Soil Types.***—The comparative order and range of productivity of soil types is reflected by the ratio of the amount of life insurance contracted to matured, and in force per head for all operators. In the Lomond district, the extreme ratios were: Sundial Silt Clay Loam—1 : 0.80, Fine Sandy Loam—1 : 0.17. In the Vulcan district, the extreme ratios were: Blackspring Silt Loam—1 : 0.92, Carmangay Fine Sand—1 : 0.45. The average yield of wheat in 1934–1935 on these soils were respectively: 13.1, 2.4 (Lomond), 16.4 and 5.8 bushels per acre (Vulcan). In the short run, the productivity of the soil under varying climatic conditions, determines the size of the farmers' cash earnings, which in turn decides the cash amount to be absorbed in maintenance of and improvements to buildings, equipment and stock, in maintaining or increasing the size of the farm unit or in increasing or decreasing the standard of living.

The farm is a social and economic unit. An increase in the size of family entails increased cash expenditures for living and without any corresponding increase in net earnings, the amount available for outside investment is decreased. It was found that the amount of insurance discontinued, increased at the rate of about 3 per cent per child up to the eleventh child. Apparently raising a large family is incompatible with keeping life insurance contracts in force.

***Age, Size of Policy, Period Farming.***—The mean age of operators when insurance was taken out, was determined for the group of farmers with insurance completely discontinued and the group with insurance in force. There was no significant difference between the respective mean ages. It is concluded in general, that the age at which insurance is contracted is in itself, not a factor determining whether life insurance will be maintained or discontinued. Adverse economic conditions effect all farmers without much respect for age.

In every five-year period from 1901 to 1930 in the Lomond district, of the policies contracted, the percentage discontinued exceeded the percentage kept in force. The reverse situation prevailed in the Vulcan district. Economic conditions in the Lomond district are definitely adverse to the maintenance of investments outside of the farm.

Policies of amounts of $1,000 and under were maintained in force for a longer period of years before being discontinued than policies of larger amounts. It is significant that some farmers were not in a position to maintain policies of small amounts.

With regard to the number of years operators had been farming when life insurance was discontinued, it is significant that 44 per cent of the farmers had been farming for 21 years and over, and that 56 per cent had been farming for 16 years or more. The variability of these data indicates the influence of other factors, such as tenure, and number of children in the family.

The amount of life insurance in force per head of population in the Vulcan and Lomond district amounted to 52 and 15 per cent respectively of the average amount in force in Canada for 1931. The amount of insurance in force per head of population in Canada in 1931 was $638.

In both the Lomond and Vulcan districts, 20-pay life was the principal type of insurance contracted by owners, tenants, and owner-tenants, followed by life and 20-year endowment types. In both districts a higher percentage of "straight life" was discontinued than of 20 pay-life or 20-year endowments. In the Lomond district, an average of $225 per insured person was outstanding on account of loans on policies, compared with $172 per insured person in the Vulcan district.

Of the insurance in force, the average amount of premium payable annually by owner-tenants was $147; by owners, $116, and by tenants, $63. The average amount of premiums payable by single operators was $158; by widowers, $121, while married persons paid $118.

## CONCLUSIONS

In general, any surplus of farm earnings which may accrue in the good years, is likely to be absorbed at least partially, in the farm enterprise to meet the needs for maintenance of, and improvements to buildings, equipment and stock; to increase the size of the farm unit, and so raise the standard of living. In a well-established farming district, it is reasonable to expect that further surplus earnings will seek investment outside the farm. Life insurance policies constitute an important type of outside investment made by farmers. The amount of life insurance contracted and kept in force per head of all operators on respective soil types, is one indication of the degree of success that has attended farming operations.

The amount of life insurance that has been kept in force by farmers varied from soil type to soil type, from district to district, with the tenure of the operator, the conjugal status, number of children in the family and net worth of the operator.

The record of the discontinuances of life insurance by farmers in the Lomond and Vulcan area, Alberta, suggests the necessity of a comprehensive class study of each applicant for life insurance as to his needs and ability to carry life insurance protection. The situation through the years which has confronted farmers in Western Canada with regard to fluctuating yields, prices, values and purchasing power, indicates the necessity for close study of life insurance requirements if a very high percentage of lapsed policies is not to be a common occurrence. What—if any—type of insurance policy has been, or can be developed to meet the particular need of Western Canadian agriculture, other than that type which has been prescribed for those engaged in other industries and professions?

The critical period during which life insurance is discontinued may be said to be during the first to fifth year. The probability of discontinuing insurance decreases as the insured builds up his equity.

The problem of lapsed insurance is not a new one, and is doubtless, well known to the executive officers of insurance companies. Amongst the major problems facing insurance companies, however, it is of first magnitude and demands that continuous research be directed towards its solution.

Life insurance, like all other commodities or services, can only be purchased by those who can pay for it. The record of discontinuances of life insurance in the Lomond and Vulcan districts, Alberta, indicates that there is a demand for life insurance on the part of those who cannot pay for it on the terms of the regular level premium companies. Life insurance protection for heads of families, for all elements of the rural population, is socially desirable from the point of view of the farm as an economic and social unit; for the protection of dependents and the satisfaction of possible creditors. But even with general economic recovery at a price level on a par with 1926, the chances are that a large percentage of the rural population will still not be in a financial position enabling them to carry life insurance.

## ECONOMIC LITERATURE

**DAWSON, C. A., Group Settlements: Ethnic Communities in Western Canada; Vol. VII, Canadian Frontiers of Settlement, edited by W. A. Mackintosh and W. L. G. Joerg. The Macmillan Company of Canada Ltd., St. Martin's House, Toronto, 1936, Pp. XX. 395 ($4.50).**

In a foreword to this volume, Dr. W. A. Mackintosh states "among the many problems of settlement, there is none more interesting than that of the groups of 'peculiar peoples' who have sought in bloc settlements to preserve their religion and their ways of life". Throughout Western Canada, there are many of these groups. The presentation of a volume reviewing their experiences and appraising their accomplishments is timely and should be well received.

The discussion opens with the Doukhobors tracing briefly their origin and periods of freedom and persecution in Russia prior to their migration, some 7,400 strong, to Canada in 1899. The ensuing years of settlement in Saskatchewan, communal life, segregation of independents, invasion of non-Doukhobors settlers, migration westward to Alberta and British Columbia, religious and economic difficulties and opposition to educational requirements, are reviewed at some length.

Chapter III contains a brief analysis of farming trends in districts settled by Doukhobors with illustrations drawn from survey records supplemented by census data. Modes of living come in for some discussion, followed by a review of the conflict between sectarianism and secularism.

Mennonite settlement on the Canadian prairies comprises the second section of this volume. The existence of this group in Canada, according to the author, constitutes "merely the most recent phase in the history of a sect which during four hundred years, has passed through recurring cycles of unrest and migration to isolated areas". In the introduction to this section, Dr. Dawson contributes a description of the origin of sects. Following this, the treatment of subject matter is much the same as described for the Doukhobors. One notes that the process of assimilation is proceeding much more satisfactorily than in the case of the first named group.

The Mormons, described in the third section, are indigenous to this continent, having originated in the Eastern section of the United States during the early part of the nineteenth century. By successive stages of migration and recurring settlement, they moved westward until the region of Salt Lake was reached. Here they founded a colony that has prospered and expanded. The Canadian settlement in Alberta is a "daughter" colony that came into existence during the late 1880's. In 1931, the population of this colony totalled 13,185 and this constituted about 60 per cent of the adherents to this religion in Canada. The progress of the group in Alberta provides the basis for most of the discussion.

In the case of the German Catholic and French-Canadian groups, migration and settlement have resulted from individual initiative rather than co-ordinated mass movements. The settlements described are the result of an inherent desire of people to settle near others of the same language and religious affiliations. These have contributed to a solidarity of settlement and a uniformity of economic and social progress.

The author's conclusion, based upon statistical and visible evidence of progress, is that these various colonies "have been more than ordinarily successful". The nature of their organization, religious and social, contributed to their success and permanency but these very characteristics at times aroused suspicion and antagonism in the minds of those settlers who belonged to neighbouring communities and resulted in the bringing of "pressure to bear on governmental representatives to bring these blocs under school, homestead, and other regulations without delay or compromise". The "incorporation of these ethnic communities in the social and economic structure of the prairie region placed a heavy burden upon all its inhabitants", but in the long run "it seems clear from the evidence analyzed that the unplanned play of external forces............tends to eliminate much, perhaps all, of the distinctiveness of separatist colonies".

The treatment of subject matter throughout the volume is descriptive and analytical. A judicious use of illustrations, case records, survey material, census and other statistical data, contribute to the presentation and support the conclusions drawn.

## INTERNATIONAL CONFERENCE AT ST. ANDREWS

The fourth International Conference of Agricultural Economists was held at St. Andrews University, St. Andrews, Scotland, August 31st to September 6th. The Conference was attended by about 250 delegates representing 23 countries. In his address of welcome, the President, Mr. L. K. Elmhurst, stated: "The object of the Conference is to foster the development of the sciences of Agricultural Economics and to further the application of the results of economic investigations of agricultural processes and agricultural organization in the improvement of economic and social conditions, relating to agricultural and rural life". Thirty countries are now represented by membership in the Conference. The fifth Conference will be held in August, 1938, at MacDonald College, Quebec.

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Personal direction of the Alberta Land Utilization Study, 1936, is being assumed by Mr. Andrew Stewart, Department of Political Economy, University of Alberta, in continued co-operation with the Economics Branch, the Prairie Farms Rehabilitation Administration and the Alberta Provincial Government.

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# The
# ECONOMIC ANNALIST

A REVIEW OF AGRICULTURAL BUSINESS
ISSUED BI-MONTHLY BY THE AGRICULTURAL ECONOMICS BRANCH
DEPARTMENT OF AGRICULTURE
OTTAWA

Vol. VI, No. 6 | Published by Authority of the Hon. James G. Gardiner, Minister of Agriculture | December, 1936

## THE ECONOMIC SITUATION

General business conditions showed considerable improvement during the first nine months of the year over the corresponding period of 1935. The nine month averages of the various index numbers quoted in the Annalist, as computed by the Dominion Bureau of Statistics, registered substantial gains. The physical volume of business index increased by 8 percent, that of industrial production by 8½ percent and the agricultural marketings index by 10 percent. Price index numbers showed modest gains; the wholesale index and the retail index each advanced by 2 percent, while the index of farm products rose by 7½ percent. The period was one of slow but steady general economic progress and the last two months in particular marked a much needed increase in the purchasing power of the farmer, through the rise in the value of farm products.

***Physical Volume of Business.***—During the months of August and September business continued to record further gains. The slight decline in the physical volume of business shown in the index figure for July, was offset in August by a gain of 3 percent to 113.2 and a further gain in the September index over that of August of 1.8 percent making the index 115.3. The index of industrial production gained 6.5 points in the two months. Mineral production increased at about the same rate as manufacturing, and the construction index which declined in August, regained the loss during September and was slightly better than the figure for July. The monthly output of electric power declined slightly during both months, and the distribution index showed a gain of 1.7 points; trade employment, and import and export indexes improved but carloadings declined. The index of agricultural marketings, influenced by the heavy wheat shipments during August, fluctuated considerably; the figure for July was 103.9, August 216.9 and September 162.6. The index of livestock marketings declined in August but rose substantially in September to 103.5, while the grain marketings index which stood at 246.1 in August—an increase of 134 percent over the figure for July, dropped back during September to 175.8.

***Wholesale Prices.***—Commodity markets remained stable during September and the general price index, which touched 76.6 for the week ended 25th, was 76.4 for the month. Markets were stronger during October although there was a slight recession toward the close of the month. The monthly index was 77.1 marking a a new high point in the economic recovery. Grain prices continue to play a prominent part in influencing index fluctuations.

***Retail Prices.***—During September a slight increase occurred in the retail price index due chiefly to a rise in the prices of bacon, eggs, butter, cheese, dry beans and to a lesser extent in prices for flour, bread, cooked hams and canned vegetables. Easier prices for creamery butter, potatoes, onions and meat during October were sufficient however to offset a seasonal advance in the fuel index and also to counteract minor increases in the clothing and rent indexes.

***Prices of Farm Products.***—Wheat prices held the gains recorded in the first two weeks of September and advanced further up to the 24th, when No. 1 Northern

### ANNUAL AND MONTHLY INDEX NUMBERS OF PRICES AND PRODUCTION COMPUTED BY DOMINION BUREAU OF STATISTICS

| Year | Wholesale Prices 1926 = 100 | | | | Retail prices and cost of services (5) | Production (6) 1926 = 100 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | All commodities (1) | Farm products (2) | Field products (3) | Animal products (4) | | Physical volume of business | Industrial production | Agricultural marketings | Cold Storage holdings |
| 1913 | 64.0 | 62.6 | 56.4 | 77.0 | 65.4 | | | | |
| 1914 | 65.5 | 69.2 | 64.9 | 79.0 | 66.0 | | | | |
| 1915 | 70.4 | 77.7 | 76.9 | 79.2 | 67.3 | | | | |
| 1916 | 84.3 | 89.7 | 88.4 | 92.3 | 72.5 | | | | |
| 1917 | 114.3 | 130.0 | 134.3 | 119.6 | 85.6 | | | | |
| 1918 | 127.4 | 132.9 | 132.0 | 134.7 | 97.4 | | | | |
| 1919 | 134.0 | 145.5 | 142.4 | 152.5 | 107.2 | 71.3 | 65.5 | 48.1 | 47.1 |
| 1920 | 155.9 | 161.6 | 166.5 | 149.9 | 124.2 | 75.0 | 69.9 | 52.6 | 94.2 |
| 1921 | 110.0 | 102.8 | 100.3 | 108.5 | 109.2 | 66.5 | 60.4 | 65.2 | 86.4 |
| 1922 | 97.3 | 86.7 | 81.3 | 99.1 | 100.0 | 79.1 | 76.9 | 82.6 | 82.8 |
| 1923 | 98.0 | 79.8 | 73.3 | 95.1 | 100.0 | 85.5 | 83.8 | 91.4 | 87.6 |
| 1924 | 99.4 | 87.0 | 82.6 | 97.2 | 98.0 | 84.6 | 82.4 | 102.5 | 114.9 |
| 1925 | 102.6 | 100.4 | 98.1 | 105.7 | 99.3 | 90.9 | 89.7 | 97.2 | 108.6 |
| 1926 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1927 | 97.7 | 102.1 | 99.9 | 105.7 | 98.4 | 106.1 | 105.6 | 103.6 | 110.0 |
| 1928 | 96.4 | 100.7 | 92.6 | 114.3 | 98.9 | 117.3 | 117.8 | 146.7 | 112.8 |
| 1929 | 95.6 | 100.8 | 93.8 | 112.5 | 99.9 | 125.5 | 127.4 | 101.1 | 109.6 |
| 1930 | 86.6 | 82.3 | 70.0 | 102.9 | 99.2 | 109.5 | 108.0 | 103.0 | 128.4 |
| 1931 | 72.2 | 56.3 | 43.6 | 77.6 | 89.6 | 93.5 | 90.4 | 99.0 | 125.7 |
| 1932 | 66.7 | 48.4 | 41.1 | 60.7 | 81.4 | 78.7 | 74.0 | 114.3 | 120.1 |
| 1933 | 67.1 | 51.0 | 45.8 | 59.7 | 77.7 | 79.7 | 76.8 | 105.1 | 115.4 |
| 1934 | 71.6 | 59.0 | 53.8 | 67.7 | 78.9 | 94.2 | 93.6 | 88.5 | 114.2 |
| 1935 | 72.1 | 63.4 | 57.1 | 73.9 | 79.3 | 102.4 | 103.3 | 87.4 | 128.4 |
| 1935 | | | | | | | | | |
| July | 71.5 | 61.5 | 55.7 | 71.1 | 78.8 | 103.0 | 104.0 | 164.7 | 114.8 |
| Aug. | 71.6 | 61.8 | 55.5 | 72.4 | 79.4 | 107.9 | 110.3 | 163.9 | 117.0 |
| Sept. | 72.3 | 64.7 | 58.3 | 76.5 | 79.6 | 101.9 | 102.5 | 114.2 | 117.2 |
| Oct. | 73.1 | 65.8 | 59.3 | 76.7 | 80.3 | 107.2 | 109.5 | 86.6 | 119.7 |
| Nov. | 72.7 | 65.0 | 57.8 | 77.1 | 80.6 | 110.0 | 113.5 | 43.3 | 127.1 |
| Dec. | 72.6 | 65.4 | 57.9 | 77.9 | 80.5 | 106.2 | 108.8 | 34.0 | 133.4 |
| 1936 | | | | | | | | | |
| Jan. | 72.9 | 65.9 | 59.0 | 77.5 | 80.5 | 105.2 | 107.0 | 39.8 | 143.4 |
| Feb. | 72.5 | 66.0 | 58.9 | 77.8 | 80.3 | 104.9 | 104.9 | 62.7 | 150.3 |
| Mar. | 72.4 | 65.5 | 59.2 | 76.0 | 80.4 | 103.3 | 104.1 | 89.5 | 149.5 |
| Apr. | 72.2 | 65.0 | 59.8 | 73.8 | 79.7 | 108.8 | 109.2 | 115.8 | 149.3 |
| May | 71.8 | 64.8 | 59.9 | 73.0 | 80.0 | 109.7 | 110.6 | 110.0 | 144.5 |
| June | 72.3 | 64.5 | 60.8 | 70.7 | 80.1 | 110·3 | 111.6 | 73.9 | 171.9 |
| July | 74.4 | 66.3 | 63.2 | 71.6 | 80.4 | 110.0 | 111.1 | 103.9 | 137.5 |
| Aug. | 76.2 | 73.3 | 74.1 | 71.9 | 81.0 | 113.2 | 115.2 | 216.9 | 129.7 |
| Sept. | 76.4 | 74.4 | 74.2 | 74.7 | 81.5 | 115.3 | 117.6 | 162.6 | 130.0 |
| Oct. | 77.1 | 76.3 | 76.4 | 76.2 | 81.5 | 119.8 | 123.8 | 71.6 | 146.3 |

1. See Prices and Price Indexes 1913-1928, pp. 19-21, 270-289 and 1913-1934, p. 15.
2. Wholesale prices of Canadian products of farm origin only. See Prices and Price Indexes 1913-1934, p. 52, and Monthly Mimeographs 1934 and 1935.
3. Wholesale prices of grains, fruits and vegetables.
4. Wholesale prices of Animals and Animal Products.
5. Including foods, rents, fuel, clothing and sundries. See Prices and Price Indexes 1913-1928, pp. 181-185, 290-293. 1926 = 100.
Prices and Price Indexes 1913-1934, p. 117, and Monthly Mimeographs, 1934-1935.
6. Monthly Review of Business Statistics, p. 8, and Monthly Indexes of the Physical Volume of Business in Canada, supplement to the Monthly Review of Business Statistics, November, 1932.

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cash wheat closed at $1.11⅜. Indefinite market reports checked overseas buying during the last week of the month and cash wheat was quoted on September 30th at $1.06⅞. The average monthly price for No. 1 Northern cash wheat was 103.9 cents a bushel compared with 90.3 cents in September of 1935 and 102.2 cents for August of this year. The threatening drought situation in Australia stimulated export demand during the first two weeks of October and No. 1 Northern cash wheat closed at \$1.14⅞ on the 14th, but in the reaction which followed lost nearly 6 cents a bushel, and closed at the end of the month at \$1.08⅛. The average price for the month of October was 110.9 cents a bushel compared with 90.8 cents in October of 1935. Other grains, with the exception of rye, averaged lower during September and October than in August.

Markets for good quality cattle were active and strong throughout September and the first two weeks of October. Record runs for the current year were experienced at some yards during mid-September and early October. Average prices during September for steers and calves advanced over the figure for August, but those of bacon hogs declined. October prices were generally easier; calves and lambs held steady, and hog prices recorded a further decline following the receipt of cables indicating probable reductions in United Kingdom bacon quotations.

Butter prices declined during the early part of September, but thereafter quotations held comparatively firm easing slightly during October. Export demand was slight. Average prices were fractionally lower during September while a decline of about 1 cent a pound was recorded during October. Egg markets showed appreciable gains during September and a marked scarcity of fresh supplies during October caused firmer prices. Average prices during October for Grade A. large were: Montreal 46.4 cents per dozen, Toronto 44.5 cents and Vancouver 38.5 cents.

***Prices in the United Kingdom.***—As the index of prices of agricultural produce for the year ended August 1936 is now available, it seems opportune to review the situation in the United Kingdom during recent years.

During the last six years the general index of agricultural produce (base 1911–1913 = 100) dropped from 125 in 1930–31 to a low point of 106 for the year ended August 1933. The following three years all showed improvement and in 1936 the index stood at 120. If allowance is made for "deficiency payments" under the Wheat Act, 1932 and the subsidy under the Cattle Industry Act, 1934, the index for 1933 would be 110 and for 1936, 125. The rise in the index for the year (September-August) 1936 over the similar period of the preceding year was 5 points, or allowing for the "deficiency payments" and the cattle subsidy in both years, 4 points. The upward movement was due chiefly to increases in the average prices of wheat, fat cattle, milk, butter, cheese, eggs, potatoes, fruit, vegetables and wool; which more than offset the effect of reduced prices for oats, fat sheep, pork pigs and hay. Average prices of barley, bacon pigs and hops showed little change during the two years.

The following table shows the general index numbers of prices of agricultural produce (September-August) 1930–31 to 1935–36, on the base 1911–13 = 100.

| 1930–31 | 1931–32 | 1932–33 | 1933–34 | 1934–35 | 1935–36 |
|---|---|---|---|---|---|
| 125 | 114 | 106 | 113 | 115 | 120 |
| | | 110 | 117 | 121 | 125 |

The second line shows the index numbers after allowance is made for payments under the Wheat Act 1932 and the Cattle Industry (Emergency Provisions) Act, 1934.

The September 1936 index of agricultural produce at 127 showed a gain of 8 points over that of August and was 6 points above the corresponding figure of a year ago. Adjusted for payments under the Wheat and Cattle Industry Acts the index for September is 133. The rise in the index is attributable very largely to the higher prices of milk, potatoes and barley, and to a lesser extent, fat sheep and hay. Average prices of wheat, oats and fat cattle were lower than in August.

***The Situation in the United States.***—The general index of farm prices (August 1909–July 1914 = 100) for October was 121—the index for January of the current year was 109. The preliminary index (1910–14 = 100) of prices paid by farmers for commodities was 127 for October. The Department of Labour retail food price index (1910–14 = 100) for September was 138 and the wholesale price index stood at 119.

## LAND UTILIZATION IN SOUTHWEST CENTRAL SASKATCHEWAN

C. C. Spence[1]

In 1935 an economic survey was made in Rural Municipalities of Waverley No. 44, Wood River No. 74, Gravelbourg, No. 104, Glen Bain No. 105, Shamrock No. 134, Chaplin No. 164 and tps. 7 and 8, rge. 7 of Pinto Creek No. 75, in southwest central Saskatchewan to determine an economic classification of the land based on the physical and financial evidence of progress made by the settlers in the use of the land.[2] Eight hundred and thirty-six farmers co-operated in providing pertinent information concerning the history and present status of their farm business since commencing on the farms which they occupied at the time of the survey. The farms, approximately thirty percent of the total number occupied in the area of the survey, were selected at random and are considered representative of a large part of southern Saskatchewan which has suffered from drought since 1928. The area lies in the semi-arid short grass plains belt, and the topography varies from broad level plains to hilly, and includes eroded sections. The soil ranges from the least to about the most productive in the province. The present use of the land and the changes which have taken place since settlement are described in this article.[3]

***Use of Land by Municipalities.***—The average area of the farms in the survey was 542 acres. The average of all farms in Saskatchewan in 1931 according to the Dominion Census was 408 acres. The municipality of Gravelbourg showed the largest average farm area, and Waverley the smallest, but in all municipalities the average size exceeded three-quarters of a section.

TABLE 1.—USE OF LAND IN FARMS—AVERAGED BY MUNICIPALITIES—FOR 836 FARMS, ECONOMIC SURVEY, SOUTHWEST CENTRAL SASKATCHEWAN 1935

| | All municipalities | Waverley No. 44 | Wood River No. 74 | Pinto Creek No. 75[1] | Gravelbourg No. 104 | Glen Bain No. 105 | Shamrock No. 134 | Chaplin No. 164 |
|---|---|---|---|---|---|---|---|---|
| Number of farms | 836 | 143 | 152 | 21 | 146 | 138 | 122 | 114 |
| | ac. | ac. | ac. | ac. | ac. | ac. | ac. | ac. |
| Average per farm | 542 | 494 | 506 | 629 | 583 | 557 | 540 | 566 |
| Cropland including fallow and breaking | 429 | 343 | 451 | 494 | 515 | 490 | 418 | 323 |
| Unimproved and farmstead | 113 | 151 | 55 | 135 | 68 | 67 | 122 | 243 |
| Wheat | 176 | 119 | 198 | 137 | 246 | 215 | 165 | 102 |
| Oats | 42 | 34 | 43 | 45 | 45 | 41 | 47 | 44 |
| Rye | 8 | 5 | 1 | 18 | 2 | 1 | 14 | 30 |
| Barley | 3 | 2 | 1 | 4 | 3 | 4 | 1 | 7 |
| Flax | 1 | — | 1 | — | — | 1 | — | — |
| Forage crops | 1 | 1 | — | 1 | 1 | 1 | 2 | 2 |
| Other crops | 1 | 1 | — | 1 | — | — | 1 | 1 |
| Fallow and breaking | 152 | 121 | 180 | 133 | 197 | 186 | 128 | 85 |
| Idle improved | 45 | 60 | 27 | 155 | 21 | 41 | 60 | 52 |

[1] Two townships only (Tps. 7 and 8, rge. 7, W. 3rd mer.).

About ninety percent of the land on the farms in the municipalities of Wood River, Gravelbourg and Glen Bain is improved, but less than 60 percent in the municipality of Chaplin, while the average for all municipalities is approximately 80 percent.

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[1] Field Assistant, Economics Branch, Department of Agriculture, Ottawa.

[2] Conducted by the Department of Farm Management, University of Saskatchewan, in co-operation with the Economics Branch of the Dominion Department of Agriculture with funds largely supplied by the Saskatchewan Agricultural Research Foundation, the Saskatchewan Department of Agriculture and the Prairie Farm Rehabilitation Committee.

[3] The present article is a brief sketch written from the data assembled which will be made available at a later date, and is a preliminary statement subject to revision and correction.

In 1935 the acreage sown to wheat averaged 41 percent of the cropland for all farms surveyed in the seven municipalities; the smallest acreage of wheat being in Chaplin, where a larger acreage of rye was sown than in the other municipalities. Little difference in the average acreage sown to oats occurred on the farms in the seven municipalities, the average for all farms being ten percent of the cropland. The other crops are of less importance, only six percent of the farms visited had legumes and crops for forage other than the cereals. For all farms, the amount fallowed amounted to 35 percent of the total cropland, and that allowed to remain idle accounted for more than ten percent. The largest amount improved of land remaining idle was in the two townships of Pinto Creek, which averaged 155 acres per farm, or more than 30 per cent of the cropland.

The use of all land and cropland by percentages averaged by municipalities for 836 farms appears in Table 2.

Table 2.—Use of the land on farms, and of cropland, by percentages—averaged by municipalities—for 836 farms, Economic Survey, Southwest Central Saskatchewan 1935

| | All municipalities | Waverley No. 44 | Wood River No. 74 | Pinto Creek No. 75[1] | Gravelbourg No. 104 | Glen Bain No. 105 | Shamrock No. 134 | Chaplin No. 164 |
|---|---|---|---|---|---|---|---|---|
| Number of farms | 836 | 143 | 152 | 21 | 146 | 138 | 122 | 114 |
| Percentage of total farm area | | | | | | | | |
| Cropland, including fallow and breaking | 79.1 | 69.4 | 89.1 | 78.5 | 88.3 | 88.0 | 77.4 | 57.1 |
| Unimproved and farmstead | 20.9 | 30.6 | 10.9 | 21.5 | 11.7 | 12.0 | 22.6 | 42.9 |
| Percentage of cropland | | | | | | | | |
| Cropland, including fallow and breaking | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Wheat | 41.0 | 34.7 | 43.9 | 27.8 | 47.9 | 43.9 | 39.4 | 31.6 |
| Oats | 10.0 | 9.8 | 9.6 | 9.0 | 8.7 | 8.3 | 11.2 | 13.6 |
| Rye | 1.9 | 1.5 | 0.2 | 3.6 | 0.4 | 0.2 | 3.3 | 9.3 |
| Barley | 0.7 | 0.6 | 0.2 | 0.8 | 0.6 | 0.8 | 0.2 | 2.2 |
| Flax | 0.2 | — | 0.2 | — | — | 0.2 | — | — |
| Forage crops | 0.2 | 0.3 | — | 0.2 | 0.2 | 0.2 | 0.8 | 0.6 |
| Other crops | 0.2 | 0.3 | — | 0.2 | — | — | 0.2 | 0.3 |
| Fallow and breaking | 35.4 | 35.3 | 39.9 | 26.9 | 38.1 | 38.0 | 30.6 | 26.3 |
| Idle improved | 10.4 | 17.5 | 6.0 | 31.5 | 4.1 | 8.4 | 14.3 | 16.1 |

[1] Two townships only (Tps. 7 and 8, rge. 7, W. 3rd mer.)

***Use of Land Classified by Topography and Soil.***—In general, the percentage of cropland per farm decreases as the topography becomes more rolling. The percentage of cropland also decreases as the soils become lighter, which means that the proportion of cropland seeded to wheat decreases as the land becomes more rolling, and as the soils become lighter. For farms with the topography level to undulating, four percent of the cropland on the clays and clay loams was idle, but this proportion increased to 20 percent of the cropland on the light loams and fine sandy loam. While a small part of this improved land remaining idle was unused because of the inability of the operator to seed or fallow it, chiefly on account of lack of funds, the larger part was left idle because it was advisable to do so. During the long period of drought the wind had eroded the soils, removing the surface layer from considerable areas and depositing it very irregularly in other parts of the same field, or in adjoining fields, which, while not affected themselves by erosion nevertheless were damaged by the piling drift. More particularly was this found to be true on the lighter soils.

The percentages of the total farm area in cropland, and the use of cropland by percentages, averaged for the 836 farms included in survey according to topography and soil appear in Table 3.

TABLE 3.—PROPORTION OF THE TOTAL AREA IN CROPLAND, AND THE PROPORTION OF THE CROPLAND USED BY THE IMPORTANT CROPS ON FARMS GROUPED ACCORDING TO TOPOGRAPHY AND SOIL, 836 FARMS, ECONOMIC SURVEY, SOUTHWEST CENTRAL SASKATCHEWAN 1935

| | Level to undulating | | | Gently to moderately rolling | | | Strongly rolling to steep | | |
|---|---|---|---|---|---|---|---|---|---|
| | Clays and clay loams | Silt loams and loams | Light loams and fine sandy loam | Clays and clay loams | Silt loams and loams | Light loams and fine sandy loam | Clay loams | Silt loams and loams | Light loams and fine sandy loam |
| Number of farms | 148 | 74 | 68 | 155 | 145 | 139 | 33 | 42 | 32 |
| Total acres pre farm | 586 | 560 | 503 | 526 | 538 | 550 | 475 | 537 | 520 |
| Acres of cropland per farm | 526 | 488 | 374 | 461 | 429 | 398 | 293 | 246 | 319 |
| PERCENTAGE OF FARM AREA | | | | | | | | | |
| Percent of total farm area in cropland | 90 | 87 | 74 | 88 | 80 | 72 | 62 | 46 | 61 |
| PERCENTAGE OF CROPLAND | | | | | | | | | |
| Cropland, including fallow and breaking | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Wheat | 47 | 45 | 35 | 45 | 42 | 30 | 41 | 41 | 36 |
| Oats | 9 | 9 | 11 | 9 | 11 | 10 | 11 | 16 | 11 |
| Rye | — | — | 6 | — | 1 | 7 | 4 | 2 | 2 |
| Forage crops | — | — | — | — | — | 1 | 1 | — | — |
| Other crops[1] | 1 | — | 1 | 1 | — | 1 | 1 | 3 | 1 |
| Summer fallow | 39 | 36 | 27 | 41 | 35 | 27 | 33 | 34 | 34 |
| Idle improved | 4 | 10 | 20 | 4 | 11 | 24 | 9 | 4 | 16 |

[1] Includes barley, flax and other crops not listed.

***Changes in the Use of Land.***—Little settlement in this area was reported previous to 1910, and before that time the land was used for ranching. During the five years following, the area was rapidly settled, and by 1916 over one million acres had been included in the occupied farms in the seven municipalities, of which more than one-half was improved. The amount of land occupied increased by about 12 percent from 1916 to 1921, but showed little change during the next five years. In 1931, however, the amount of land occupied was 25 percent greater than that reported in the Census of 1916.

TABLE 4.—TOTAL LAND OCCUPIED AND IMPROVED WITHIN THE MUNICIPALITIES OF WAVERLEY NO. 44, WOOD RIVER NO. 74, PINTO CREEK NO. 75, GRAVELBOURG NO. 104, GLEN BAIN NO. 105, SHAMROCK NO. 134 AND CHAPLIN NO. 164, BY CENSUS YEARS[1]

| Census year | Total land occupied | Total land improved | Percentage improved of occupied |
|---|---|---|---|
| | Acres | Acres | p.c. |
| 1916 | 1,039,361 | 571,627 | 55.0 |
| 1921 | 1,163,638 | 777,625 | 66.8 |
| 1926 | 1,166,030 | 857,637 | 73.6 |
| 1931 | 1,295,927 | 1,010,244 | 78.0 |

[1] Data from Census of Canada, 1916, 1921, 1926 and 1931.

The percentage of occupied land which had been improved increased steadily from 1916 to 1931. In 1916, 55 percent of the land occupied was improved compared with 67 percent in 1921, 74 percent in 1926 and 78 percent in 1931. (See Table 4). The economic survey of the seven municipalities in 1935 indicates that very little change had taken place since 1931 in the proportion of occupied land which had been improved. (See Table 2.)

During this period of occupancy and improvement (1916 to 1931) the proportion of total crop acreage of the seven municipalities which was used for wheat increased from 70 to 78 percent, while that in oats decreased from 19 to 15 percent.[4] Oats are not as well adapted to the semi-arid conditions of the area as wheat, and the tendency has been to grow less than formerly.

In 1916, flax occupied 8.6 percent of the total acreage in crop for the seven municipalities. Each succeeding census record shows a reduced acreage of flax and in 1931 this had fallen to less than one percent of the total acres in crop. In the earlier years, flax was frequently planted on land immediately after breaking in the spring to get a cash crop as quickly as possible, and this possibly accounts for part of the larger proportion grown when settlement was in progress. Reduction of acreage has resulted from a number of influences which include wide variations in yields and prices, difficulties of controlling weeds, of handling the crop after maturity and perhaps in some cases flax wilt. Only 13 of the 836 farms of the survey reported using any land for flax in 1934.

The Census report indicated a slight increase in the proportion of the total crop acreage used for barley from 1926 to 1931, but the proportion is very small, being only 1.9 percent in 1931. The survey indicates that less than one-half of this proportion was used for barley in 1935. Legumes and grasses were grown to some extent in 1926, but the acreage was less than one-fourth of one percent of the total crop acres in the seven municipalities. In 1931, this amount had fallen to less than one-half of what it was in 1926, but the survey indicates it was slightly more in 1935.

Table 5 presents a summary of the total acres in crops, and the percentage used for the various crops grown in the municipalities included in the economic survey of 1935 by Census years.

TABLE 5.—TOTAL ACRES IN CROPS, AND THE PERCENTAGE USED FOR VARIOUS CROPS GROWN IN THE MUNICIPALITIES OF WAVERLEY NO. 44, WOOD RIVER NO. 74, PINTO CREEK NO. 75, GRAVELBOURG, NO. 104, GLEN BAIN NO. 105, SHAMROCK, NO. 134 AND CHAPLIN NO. 164[1]

| Census year | Total acres in crop | Wheat | Oats | Rye | Barley | Flax | Legumes and grasses | Other |
|---|---|---|---|---|---|---|---|---|
| | Acres | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. | p.c. |
| 1916 | 414,026 | 70.4 | 18.8 | 0.2 | 0.6 | 8.6 | - | 1.4 |
| 1921 | 514,432 | 72.9 | 20.1 | 0.9 | 0.9 | 4.2 | - | 0.9 |
| 1926 | 560,901 | 77.4 | 17.3 | 0.6 | 0.8 | 1.8 | 0.2 | 1.9 |
| 1931 | 602,480 | 78.5 | 14.9 | 3.2 | 1.9 | 0.8 | 0.1 | 0.6 |

[1] Reports of the Census of Canada 1916, 1921, 1926 and 1931.

The growing of rye has increased markedly in the municipality of Chaplin, and to a less extent in the municipality of Shamrock. For Chaplin the Census reports indicate a consistent increase in the proportion which the acreage of rye bore to the total crop acreage from less than one percent in 1916, to more than 24 percent in 1931. The increase in the proportion of the crop acreage used for rye from 1926 to 1931 was accompanied by a reduction in the proportion used for wheat from 65 to 52 percent for Chaplin. A less marked reduction occurred in the proportion of crop acreage used for wheat in the municipality of Shamrock, accompanied by an increase in the proportion used for rye. The survey indicates that for 1935 a somewhat smaller proportion of the total crop acreage of Chaplin was in rye than was reported for 1931 (16 percent of the acres in crops) and a larger proportion for Shamrock, (approximately six percent). Rye is grown on the lighter soils. Approximately 40 per cent of the land surface of the municipality of Chaplin, and 14 per cent of the municipality of Shamrock is mapped as fine sandy loam soil.

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[4] "Acreage in crops" differs from "acres of cropland" used frequently throughout this report, the former does not include fallow, breaking and idle improved.

***The Growing of Fall Rye.***—Fall rye provides a vegetative cover for the soil in the early spring and thus helps to prevent the soil from drifting. Its use on the lighter soils began some years before the recent prolonged drought period which commenced in 1929. For the years 1924, 1927 and 1929, the returns per acre from fall rye were comparable to the returns per acre from wheat, and farmers were encouraged to grow fall rye. Under normal price conditions however, wheat is the more profitable and this acts as an incentive to grow this crop, even though problems with drifting soils might make it advisable to grow rye.

The relative attractiveness of wheat and fall rye is indicated in Table 6, which shows the yield, price and value per acre of fall rye and wheat for Crop District No. 3, from 1923 to 1934.

TABLE 6.—YIELD, FARM PRICE, AND VALUE PER ACRE OF FALL RYE AND WHEAT IN CROP DISTRICT No. 3—1923 TO 1934[1]

| Year | Yield per acre | | Farm price per bushel | | Value per acre | |
|---|---|---|---|---|---|---|
| | Fall rye | Wheat | Fall rye | Wheat | Fall rye | Wheat |
| | bus. | bus. | $ | $ | $ | $ |
| 1934 | 1.0 | 3.6 | 0.46 | 0.59 | 0.46 | 2.14 |
| 1933 | 2.7 | 3.7 | 0.34 | 0.45 | 0.92 | 1.67 |
| 1932 | 6.6 | 7.7 | 0.24 | 0.35 | 1.58 | 2.69 |
| 1931 | 0.5 | 2.4 | 0.23 | 0.38 | 0.11 | 0.92 |
| 1930 | 7.2 | 8.0 | 0.17 | 0.47 | 1.23 | 3.75 |
| 1929 | 7.9 | 6.8 | 0.82 | 1.03 | 6.47 | 6.98 |
| 1928 | 17.6 | 25.8 | 0.74 | 0.77 | 13.06 | 19.83 |
| 1927 | 19.7 | 14.6 | 0.79 | 0.97 | 15.56 | 14.12 |
| 1926 | 15.1 | 15.8 | 0.74 | 1.08 | 11.16 | 17.01 |
| 1925 | 15.4 | 17.7 | 0.72 | 1.25 | 11.08 | 22.14 |
| 1924 | 16.4 | 13.9 | 0.95 | 1.21 | 15.54 | 16.84 |
| 1923 | 16.2 | 19.5 | 0.45 | 0.65 | 7.32 | 12.70 |
| 1923–1934 | 8.7 | 11.5 | 0.51 | 0.86 | 4.40 | 9.89 |

[1] Annual Reports of Secretary of Statistics, Department of Agriculture, Regina, Sask.

In review it may be restated that in the area surveyed the proportion of cropland per farm decreases as the topography becomes more rolling and the proportion of land which was at one time cultivated but is now allowed to remain idle, increases as the soils become lighter. Very little change has taken place since 1931 in the proportion of the land which has been improved. Since early settlement wheat has been the principal crop. An increased percentage of the crop acreage seeded to wheat is reported for each succeeding Census year 1916 to 1931. While other crops are grown such as oats, rye, barley, flax and forage crops, these have been of small importance compared with wheat. On the lighter soils there was an increase in the acreage of rye from 1926 to 1931, but a decrease occurred following that period probably due largely to the relatively lower returns ordinarily obtained from rye in comparison with wheat.

## CHARGE ACCOUNT RECORDS OF PURCHASES OF CHEESE BY 92 FAMILIES IN THE CITIES OF OSHAWA AND MONTREAL

W. C. Hopper[1]

In the survey conducted in Oshawa, Ontario, and in Quebec City, by the Economics Branch during 1935 to obtain facts with respect to the utilization of cheese of different kinds by families of different sizes, different national origins and different family incomes, housewives who were interviewed were asked to state the quantity of various kinds of cheese purchased during the previous year. In almost all cases the figures given were estimates of these housewives. The results of this survey which cover 816 families in Oshawa and 790 in Quebec City will shortly be published in the Economic Annalist.

Another method of obtaining knowledge of the quantities of cheese consumed in homes would be to examine the records of purchases of cheese from retail stores on charge accounts. In the case of the latter method, it would be assumed that the families whose accounts are used, purchase all of the cheese used in their homes in the store from which the records are obtained.

In order to compare the results of the survey made in Oshawa and in Quebec City, in which the majority of the figures on the consumption of cheese were estimates, with actual sales as shown by charge accounts, the purchases of cheese of all kinds as shown by representative family accounts of retail stores were recorded and tabulated. In Oshawa, one independent store supplied such data for 50 families. No information on charge account purchases of cheese could be obtained for a sufficiently long period from retail stores in Quebec City but purchases of 42 French Canadian families on charge accounts from retail stores in Montreal were obtained.

The average per capita consumption of 150 individuals in 50 Oshawa families was 6.9 pounds of all types of cheese (Table 1). In Montreal, the average per capita consumption of 214 individuals in 42 families was 5.6 pounds of all types of cheese.

Although the proprietors of the stores stated that they believed the families selected purchased all of their cheese requirements in their stores, it is quite conceivable that as cheese is sometimes used as a special offering by stores which sell only for cash, some of these families might have purchased some cheese in other stores during the year. If any cheese were purchased outside of the charge account stores, the per capita consumption would, of course, be enlarged accordingly. It is unlikely, however, that the figures would be appreciably increased on this account.

In all Canadian cities a considerable number of the families belong to low income groups, but as the majority of the families whose charge accounts were examined had medium or high incomes, the average per capita and per family consumption of the 92 families does not accurately reflect the average consumption of cheese for the entire cities of Oshawa and Montreal.

Table 1.—Purchases of cheese of all kinds on charge accounts by 92 families from independent retail stores in Oshawa and Montreal, 1935

| City | Number of families | Average Number of individuals in family | Annual consumption per family | Annual per capita consumption |
|---|---|---|---|---|
| Oshawa | 50 | 3.0 | 20.7 | 6.9 |
| Montreal | 42 | 5.1 | 28.6 | 5.6 |
| Total or average | 92 | 4.0 | 24.3 | 6.1 |

When the total sales of all cheese to the 50 Oshawa families were combined and sorted by monthly sales, the quantity sold from month to month was remarkably uniform (Table 2). The sales to the 50 families were largest in the months of July, September and December, the smallest in January and October.

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[1] Chief, Division of Marketing, Economics Branch, Department of Agriculture, Ottawa.

TABLE 2.—SEASONAL DISTRIBUTION OF PURCHASES OF 1036 POUNDS OF CHEESE OF ALL KINDS BY 50 FAMILIES FROM ONE INDEPENDENT RETAIL STORE IN OSHAWA, ONTARIO—NOVEMBER 1ST, 1934, TO NOVEMBER 1ST, 1935

Percentage purchased in various months

| Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | % | % | % | % | % | % | % | % | % | % | % | % |
| 7.7 | 8.0 | 8.5 | 8.3 | 8.4 | 8.0 | 8.9 | 8.5 | 8.9 | 7.5 | 8.5 | 8.8 | 100 |

If the sample of the charge accounts had been larger than 92, it is quite possible that the results might have been somewhat different, but it is unlikely that the differences for the stores selected would be very significant as the accounts were taken at random as an average of all the accounts of the stores. Examination of charge accounts in other retail stores in Oshawa and Montreal might, however, give results which would be materially different.

## FINANCIAL RESULTS OF TWO YEARS' FARM OPERATIONS IN NEW BRUNSWICK

IAN S. MCARTHUR[1]

During the summer of 1936 a farm questionnnaire was sent to the 199 farmers in Carleton and Victoria counties of New Brunswick who had co-operated with the Economics Branch during the summer of 1935 in a farm management survey. A short visit was also made to the area during the past summer and a total of 70 records were secured covering the farm business for the crop year of 1935–36. The crop year 1935–36 was a substantially better one for these New Brunswick farmers, due chiefly to the improved market for potatoes, the main cash crop of the district. During the previous year the price of potatoes was extremely low, averaging only 24 cents per barrel of 165 pounds and during that season only 51.4 per cent of the potato crop found a market. During the season of 1935–36 the average price received by the farmers included in the study was $1.35 per barrel and 77.9 per cent of the crop was marketed. The yield per acre was somewhat lower in 1935, averaging 95.8 barrels per acre compared with the very high average of 130 barrels per acre in 1934.

***Utilization of Crop Land.***—The low prices received for the 1934 potato crop, coupled with a shortage of cash to buy commercial fertilizer in the spring of 1935, led to a reduction in potato acreage averaging 4.3 acres per farm, or a reduction of 33 per cent from the average of 13.1 acres grown in 1934. Acreages of other crops did not show any material change. There was a total reduction of 5.2 acres per farm devoted to field crops and hay. In the case of hay the 1935 crop was somewhat heavier than in 1934 and the total tonnage cut was greater in the second year, despite the reduction in the acreage cut for hay. The land which was not used for field crops or hay in 1935 apparently reverted to pasture.

TABLE 1.—UTILIZATION OF CROP LAND PER FARM ON 70 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35 AND 1935–36 CROP YEARS

| Crop | Acres 1934–35 | Acres 1935–36 | Change Acres |
|---|---|---|---|
| Oats | 25.0 | 25.6 | + 0.6 |
| Barley | 1.9 | 2.2 | + 0.3 |
| Wheat | 2.2 | 2.1 | − 0.1 |
| Buckwheat | 1.5 | 1.4 | − 0.1 |
| Hay | 40.9 | 39.3 | − 1.6 |
| Potatoes | 13.1 | 8.8 | − 4.3 |
| Miscellaneous | 0.9 | 0.9 | — |
| Total | 85.5 | 80.3 | − 5.2 |

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[1] Graduate Assistant, Economics Branch, Department of Agriculture, Ottawa, Canada.

***Farm Expenses.***—Farm expenses were materially reduced during the 1935–36 crop year, due almost entirely to the reduction in the acreage of potatoes. There was a reduction of $195 per farm in current farm expenses, of which $93 was on account of the reduced use of commercial fertilizer and $62 was on account of the reduced use and much lower price of seed potatoes. Further reductions were also effected in the case of capital expenditures, amounting to $44 per farm for new buildings and machinery, and a reduction of $36 per farm for the purchase of livestock. The total reduction in all farm expenses amounted to $278 per farm.

TABLE 2.—EXPENSES PER FARM, 70 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35 AND 1935–36 CROP YEARS

| Item | 1934–35 $ | 1935–36 $ | Change $ |
|---|---|---|---|
| Hired labour | 165 | 166 | + 1 |
| Unpaid labour | 168 | 165 | − 3 |
| Board of labour | 55 | 58 | + 3 |
| Municipal taxes | 25 | 26 | + 1 |
| School taxes | 29 | 28 | − 1 |
| Fertilizer | 271 | 178 | − 93 |
| Lime | 3 | 3 | — |
| Copper sulphate | 21 | 12 | − 9 |
| Arsenate | 8 | 4 | − 4 |
| Potato barrels | 12 | 8 | − 4 |
| Machinery Repairs | 34 | 26 | − 8 |
| Potato Seed | 90 | 28 | − 62 |
| Potato storage | 19 | 3 | − 16 |
| Miscellaneous | 305 | 305 | — |
| Total current | 1,205 | 1,010 | −195 |
| New buildings and equipment | 72 | 28 | − 44 |
| Livestock purchases | 110 | 74 | − 36 |
| Inventory decrease | 220 | 217 | − 3 |
| Total all expenses | 1,607 | 1,329 | −278 |

In the data covering the 1935–36 crop year certain minor items of farm expense were grouped together and entered at the same figure as for the previous year. While these expenses totalled to an average of $305 per farm, the individual items were relatively small. Items included under this heading included use of auto and truck $65 per farm; insurance on buildings $29 per farm; horseshoeing $23 per farm; fertilizer other than for potatoes $27 per farm and feeds and supplies $36 per farm. While the assumption that these costs would remain constant may not be entirely true, it is probable that the variation would not be sufficiently great to make any material difference to the results of the study.

***Farm Receipts.***—Farm receipts for the crop year 1935–36 amounted to $1,501 per farm or an increase of $541 per farm over the previous year. The increase in receipts from potatoes alone amounted to $679 per farm, but this gain was offset to some extent by reduced income from the sale of other crops and livestock. Also there was a reduced increase in farm inventory during the second year studied. The sale of livestock products, chiefly butter and eggs was $24 per farm greater in 1935–36, due chiefly to somewhat improved prices for these products. In the 1934–35 crop year potatoes provided only 23 per cent of the total farm receipts, while in 1935–36 this crop accounted for 60 per cent of the total receipts.

TABLE 3.—RECEIPTS PER FARM, 70 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35 AND 1935–36 CROP YEARS

| Source | 1934–35 $ | 1935–36 $ | Change $ |
|---|---|---|---|
| Potatoes | 220 | 899 | + 679 |
| Other crops | 222 | 153 | − 69 |
| Livestock sales | 198 | 172 | − 26 |
| Livestock products | 97 | 121 | + 24 |
| Miscellaneous | 84 | 82 | − 2 |
| Inventory increase | 139 | 74 | − 65 |
| Total | 960 | 1,501 | + 541 |

***Financial Summary.***—With total expenses reduced by $278 per farm and total receipts increased by $541 per

TABLE 4.—FINANCIAL SUMMARY PER FARM, 70 FARMS, CARLETON AND VICTORIA COUNTIES, NEW BRUNSWICK, 1934–35 AND 1935–36 CROP YEARS

| | 1934–35 $ | 1935–36 $ | Change $ |
|---|---|---|---|
| Cash receipts | 821 | 1,427 | + 606 |
| Inventory increase | 139 | 74 | − 65 |
| Total | 960 | 1,501 | + 541 |
| Total expenses | 1,607 | 1,329 | − 278 |
| Farm income | −647 | 172 | + 819 |
| Farm perquisites | 415 | 415 | — |
| Less interest on Capital 5% | 382 | 382 | — |
| Operator's income | −614 | 205 | + 819 |

farm, there was a net improvement in the financial results of the year's farm operations amounting to $819 per farm. Farm income which averaged a loss of $647 per farm for the 1934–35 crop year, showed a surplus of $172 per farm for 1935–36. Farm perquisites, consisting of the value of farm products consumed on the farm and an allowance for the use of the farm home, were considered to be essentially the same for the two years. Interest on average capital was also taken at the 1934–35 figure to secure a figure for operators income which resulted in a loss of $614 per farm in 1934–35 and a gain of $205 per farm for 1935–36.

## AGRICULTURAL OUTLOOK FOR 1937

Preparation of the fourth annual Agricultural Situation and Outlook, by the Dominion Departments of Agriculture and of Trade and Commerce, commenced in Ottawa early in October. It has been customary to have the report ready for publication early in January and in order to bring all the data together and analyse it carefully, it is necessary to commence work many weeks in advance. A total of 17 separate committees have been set up to deal with the various phases of the work. Ten of these committees will deal with the basic data pertaining to all of the major classes of live stock, grains, fruits and vegetables. Other committees include those considering the domestic situation, international trade conditions and long time trends. In addition there is the central committee, the board of review, the editorial committee and the publicity committee. The board of review is a new departure for the preparation of the report for 1937. This board will function chiefly as a co-ordinating board in considering the reports before presentation at the general conference to be held during the week of November 29th.

In order to provide the various commodity committees with basic information concerning the demand side of the situation, a general meeting of the committee chairmen was held on October 8th. At this meeting preliminary reports, prepared by the committees dealing with the domestic situation and international trade conditions, were presented. The general tenor of these reports was optimistic regarding the outlook for 1937, although the international trade situation continues to be clouded by many factors which tend to hamper the exchange of goods between nations.

Mr. V. B. Hart, of Cornell University, was present at this general meeting and discussed methods used in his State for the dissemination of Outlook information. He stated that Outlook work in the United States has become a very important phase of extension work. It was also pointed out that the object of outlook information was to enable the farmer to make more money. Through a clear presentation of the facts pertaining to the probable supply and demand for a particular commodity, farmers are assisted in formulating their production programme for the ensuing year.

The various commodity committees have been functioning during October and November in bringing together data concerning their particular fields. The individual committees are made up of representatives of all phases of the production and marketing of the product. For example, a typical committee will have a representative from the production branch of the Department of Agriculture, as well as representatives from the Central Experimental Farm; the Bureau of Statistics; the Commercial Intelligence Service; the National Research Council, and the Economics Branch. In some cases there is also a representative of the Entomological Branch of the Department of Agriculture. These committee men made individual contributions to their committee, which are then discussed and drafted into a preliminary report. These preliminary reports were submitted to the Board of Review on November 7th. After consideration by the Board of Review and the editorial committee they will be presented to the general group at the meeting early in December. At this meeting the reports will be discussed and then finally prepared for publication by the editorial committee.

In an effort to bring about an exchange of ideas and to develop a closer relationship between Outlook work in Canada and the United States, it has been customary to have representatives of each country sit in at the general discussions of the other. This year, Dr. J. F. Booth, Commissioner of the Economics Branch, and T.G. Major, of the Commercial Intelligence Service, visited Washington during the week of October 25th. Two representatives from the United States attended the December conference in Ottawa last year and it is expected that a similar representation will be present again this year.

A number of the provinces have been preparing and publishing Outlook reports dealing more specifically with the farm products produced within their individual provinces. Representatives from a number of the provinces have been attending the general conferences in Ottawa, and it is hoped that there will be an even more complete representation this year. Such interchange of ideas leads to closer relationships and avoids duplication in the work of preparation of the reports. Agricultural extension workers and the press have been using the information presented in these reports in increasing volume since the publication of the first Dominion report published early in 1934.

## THE CURRENT AMERICAN FARM PROGRAM

A glance at the current farm program in the United States may be of interest in view of the discussions now being held in that country with respect to future policy. By its decision in the Hoosac Mills case last January the Supreme Court invalidated that part of the Agricultural Adjustment Act which provided for production control as carried out through contracts with individual farmers and financed by processing taxes. This decision received such wide publicity that many people have assumed its effect on the farm program to be just as dire as was that of the Schecter case, invalidating the NIRA, on the Administration's plan for industry. This is hardly true. There is more to the AAA than production control and there is more to the "New Deal" farm policy than the AAA. Moreover, it may be that the soil conservation plan which has succeeded the AAA production control measures can accomplish the same ends, although, lacking the processing taxes, it cannot be termed "self liquidating".

The program for farm aid has three main divisions. In addition to the Agricultural Adjustment Administration there are the Farm Credit Administration and the Resettlement Administration.

The Farm Credit Administration and the institutions operating under its supervision provide a co-ordinated credit system for agriculture. Loans are made direct to individual farmers, and also to co-operatives and rural credit associations. Through these various channels the farmer may secure a loan to meet almost any purpose—production expenses, building or equipment costs, or re-financing. From May 1, 1933, to the end of 1935, over a million loans were made and the total amount of such loans exceeded $3,000,000,000.

The Resettlement Administration, through its various branches, endeavours primarily to aid the farmer on marginal and drought stricken lands. The Resettlement program includes land improvement, land retirement and the transfer of families, loans to those who cannot get credit elsewhere, farmer-creditor debt adjustments, grants and housing projects. In many of its phases it is virtually a part of the Government's relief activities.

The Agricultural Adjustment Administration carries out the provisions of various Acts of Congress designed primarily to raise farm incomes. Chief among the means adopted towards this end are: marketing agreements, purchase of surplus commodities and, most important, payments to farmers for soil conservation efforts.

Under the marketing agreement provisions of the Agricultural Adjustment Act—a portion of the Act which has not lost its constitutionality—producers are enabled to practise unified marketing. A large proportion of the fruits and vegetables entering interstate trade are now under regulation, and there are also a number of agreements relating to milk and other products. As some of the agreements are now completing their fourth year of operation it must be assumed that they have proved beneficial to the producers.

The program for removing price-depressing surplus agricultural products from normal channels of trade is largely financed under an amendment to the Agricultural Adjustment Act. This makes available to the Secretary of Agriculture an amount equivalent to 30 percent of the annual customs receipts for uses which include encouraging domestic consumption and developing new markets and new uses for farm products. Purchase and distribution of a wide range of commodities have been made. The distribution has largely been to relief agencies—2,500,000,000 pounds of farm products have thus been disposed of—but the program has also included such diverse activities as subsidizing the export of pears and supplying cotton to various States for experimental use in road building.

By far the most important activity of the Agricultural Adjustment Administration is the national soil conservation program. This program, provided for by the Soil Conservation and Domestic Allotment Act, is the successor to the production control features of the Agricultural Adjustment Act. It provides for payments to producers who divert a part of their production from "soil-depleting" to "soil-conserving" crops or uses. Its dual intent is to maintain soil fertility and to discourage over-production of the crops which tended to accumulate in surpluses. $470,000,000 was the amount made available for this work in 1936. For administration purposes the nation was divided into five regions; within each region State committees and, finally, county committees are appointed to handle the details. It is left to each farmer to make application for the payments to which he is entitled. There are two types of payment: Class 1 represents compensation for loss of return on the crop area diverted from "soil-depleting" crops; Class II represents a contribution towards the cost of growing soil conserving and soil building crops or the carrying out of fertilizing, terracing, tree planting and other measures for soil improvement.

A farmer who qualifies for a Class I payment by diverting his acreage to soil conserving crops will naturally qualify for the Class II payment as well. A farmer who does not reduce his soil depleting acreage but who does engage in soil building practices will be eligible for the Class II payment only. All payments are made on an acreage basis except the Class I payments for some special crops, notably cotton, tobacco and peanuts, where the compensation is based on the amount of the commodity which might have been produced on the land diverted to soil conserving uses. While the rate of payment varies with conditions, the general average for Class I payments is to be $10 per acre; the Class II payments are limited to a maximum of $1 per acre for each farm. Soil depleting crops include corn, cotton, tobacco, wheat, oats, barley, truck and canning crops, sugar cane and others. Soil conserving crops consist mainly of the legumes and perennial grasses, and forest trees planted on crop land.

No estimates have as yet come to hand as to the extent to which farmers have availed themselves of the provisions of the Act, or the probable expenditures to be made under it. The widespread drought of last summer was in itself an excellent check on whatever potential overproduction there may have been. Whether or not the plan will receive a further trial in 1937 is another matter which remains in doubt at the moment, for various changes in the farm program are just now being considered by the Administration.

## PROVINCIAL FARM CREDIT SYSTEM IN QUEBEC

The Quebec Parliament has recently enacted legislation to establish a provincial farm credit system to aid already established farmers or any person acquiring for cultivation one or more farms forming one enterprise, by means of loans granted by an agency called, "Quebec Farm Credit Bureau" which will have powers to borrow under the Government guarantee up to $10,000,000.

Long term loans will be granted to farmers on the security of a first mortgage on farms up to 65 per cent of the appraised value by the Bureau. Borrowers will also be able to secure additional loans on the security of a second mortgage for a shorter period and in these cases aggregate loans are not to exceed 75 per cent of the appraised value of the farm. Loans, however, will never exceed $6,000 to each borrower. When the borrower's debts exceed 65 per cent of the appraised value of the farm given as security the amount of the loan may be increased up to 75 per cent of the value of the farm provided that creditors agree to accept this amount as final settlement of their claim with the debtor and give him a clearance to this effect.

The rate of interest on loans to farmers is 2½ per cent per annum payable semi-annually. Repayment of principal is made under an amortization plan at the rate of 1½ per cent for a period of thirty-nine years and a half or at the option of the borrower for thirty years with the outstanding balance of the principal to be repaid at the end of this period.

## ECONOMIC LITERATURE

**UNEMPLOYMENT. An International Problem. A report by a Study Group of Members of the Royal Institute of International Affairs. Oxford University Press, London: Humphrey Milford. 1935. 442 pages and Appendices and Index.**

This exhaustive study of world unemployment is prepared by a group of members under the Chairmanship of the Viscount Astor, and is issued under the auspices of the Royal Institute of International Affairs. World-wide in scope, it presents the problems confronting practically every country at the present time. While it is pointed out that each country has problems almost entirely peculiar to itself, yet mere national thought and action can do little but act as a palliative to the general world unemployment situation. Unemployment may be described as "one aspect of the disorganization of the structure of primary production, industry, and the exchange of commodities, and the social and political system". This being the case, it is submitted that the problem of the 30 million of unemployed throughout the world becomes a collective one, and should be recognized as such. "On the political side there is tardy and partial recognition that avoidance of armed conflict is a question of collective action by the nations. The conception of collective security must be applied to economic problems".

The social consequences of unemployment are presented in the early pages of the volume in the general descriptive section; loss of wealth and efficiency, the absence of apprentices and learners in skilled and semi-skilled trades, the effect of continued unemployment on young persons and the possibility of its detrimental results upon the health and well-being of the community. Employment in Great Britain, Germany, France, the United States and the U.S.S.R. is analyzed in considerable detail, and the scope of the unemployment schemes of insurance in the first two countries receives special comment.

The second section—The General Background—is devoted to the post-war period and the depression of 1929–34 and its effect upon employment. The changes in the economic structure are fully covered and include chapters on the problems confronting specified industries; the effect of trusts and cartels, protective policies and technological developments. The major agricultural countries are reported upon quite extensively. The population factor receives considerable attention, and the slackening of population in Great Britain and certain European countries is mentioned as being of particular significance to agricultural countries with markets in Great Britain and Europe. It is pointed out that European agrarian policies have only helped to limit still further, the market for agricultural products from abroad.

Remedial measures are covered by the third section of the book and include policies which may be exercised by the State, such as public works, general relief work and employment on the land. In a sub-section consideration is given to the possibility of the organization of the labour market to absorb some of the surplus by a more efficient control of the supply of labour and by a more effective method of the spreading of the work. The argument in favour of shorter hours is discussed and attention is paid to the possibility of vocational guidance as a means of better distribution of workers throughout the trades and professions. A further section deals with unemployment insurance and relief, and social services for the unemployed. It is of interest to note that eight countries have compulsory unemployment insurance, and two have insurance of a semi-compulsory nature. Of the 38 million persons covered by compulsory insurance, about 31 millions are accounted for by the British and German systems. Voluntary schemes of insurance in ten different countries cover approximately 4 millions.

Sixteen pages are devoted to the Summary and the following extract presents both accurately and tersely, the problem facing the statesman of to-day: "Generally speaking, the first requisite in framing a long-term employment policy is to know whether the scales are to come down on the side of resumption of political co-operation or on that of growing isolation. If there is to be permanent political co-operation there must be economic agreement, since no political co-operation is stable where economic conflict is recurrent."

A vast amount of study and research has been accomplished in compiling this book, and acknowledgment is made to the authorities in many countries who rendered valuable assistance and supplied critical commentary. The bibliography, referred to in foot-notes, is immense. Seventeen appendices and an adequate index add to the value of this comprehensive volume, which will no doubt become a standard reference in its particular sphere.

* * *

A report on the distribution of national income compiled by the United States Department of Commerce shows that in 1935, 67.3 percent of the total income of all people of that country was in the form of wages and salaries. Unincorporated business, including farming, amounted to 16.2 percent and the remaining 16.5 percent represented income from dividends, interest receipts, rents and other property income.

* * *

Some idea of the magnitude of the English Milk Marketing Scheme is gathered from the yearly turnover which is 389 million dollars. The Milk Board deals in England and Wales with 90,000 milk producers and 70,000 producer-retailers who have a combined gallonage of about one thousand million gallons. The Board's daily post-bag averages 1,600 letters, but at the peak time of monthly returns from the farmers 25,000 may be received in a single day. With the aid of accounting machines, the farmers' pay-sheets are made up at the rate of 2,000 an hour.

* * *

Exports of Canadian products in October totalled $110,993,509 and imports during the month were $65,187,974. October exports exceeded those of any month since November 1929 and were $20,500,000 ahead of the total for October 1935.

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